TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR TOWER BAJA 3 KAKI SETINGGI 120 METER UNTUK ANTENA RCTI DI SUKOHARJO - JAWA TENGAH

OLEH :

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PROGRAM SARJANA (S-1) EKSTENSI LINTAS JALUR
JURUSAN TEKNIK SIPIL
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
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SURABAYA
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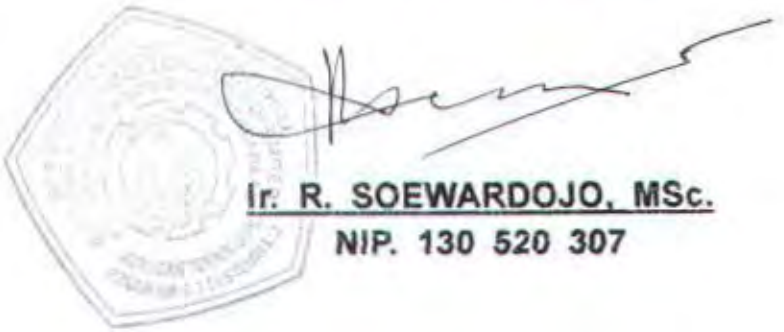
MENGETAHUI / MENYETUJUI

DOSEN PEMBIMBING



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ABSTRAK

Salah satu kebutuhan manusia adalah kebutuhan dalam bidang informasi dan telekomunikasi. Oleh karena itu RCTI (Rajawali Citra Televisi Indonesia), salah satu televisi swasta nasional di Indonesia, merasa perlu membangun tower yang digunakan sebagai penyangga antena pemancar untuk memperluas jangkauan. Tower dirancang dengan konstruksi baja, yang merupakan salah satu dari bahan konstruksi yang paling penting.

Dalam tugas ini dilakukan modifikasi struktur tower baja dengan 3 alternatif desain dengan bentuk bracing yang berbeda, yaitu bentuk bracing V terbalik dan bentuk bracing K ganda. Dari ketiga alternatif desain tersebut diambil yang mempunyai bobot paling ringan. Konstruksi tower tersebut mempunyai ketinggian 120 meter, lebar dasar 12 meter dan lebar puncak 2 meter. Perhitungan struktur tower baja dengan menggunakan konsep LRFD (Load and Resistance Factor Design) dari Tata Cara Peerencanaan Struktur Baja untuk Bangunan Gedung tahun 2000. LRFD adalah konsep derdasarkan filosofi limit state (keadaan batas), yaitu suatu kondisi dimana struktur atau beberapa bagian dari struktur menunjukkan perilaku tidak dapat berfungsi.

Setelah dilakukan analisa struktur dengan SAP2000 dan dilakukan kontrol terhadap gaya-gaya yang terjadi, maka diketahui desain alternatif 1 mempunyai berat 49794,06 kg, desain alternatif 2 mempunyai berat 55882,21 kg dan desain alternatif 3 mempunyai berat 54156,40 kg. Dengan demikian alternatif 1 adalh terpilih sebagai tower dengan berat paling ringan. Selanjutnya dilakukan perhitungan sambungan dan perhitungan pondasi pada struktur tower alternatif 1 tersebut. Dari hasil perhitungandapat digamnbarkan sebagai acuan dalam pelaksanaan.

KATA PENGANTAR

Puji syukur alhamdulillah atas segala rahmat dan nikmat Allah SWT, hanya karena-Nyalah sehingga kami dapat menyelesaikan Tugas Akhir ini. Shalawat serta salam semoga tetap tercurah kepada Nabi Muhammad SAW serta para pengikut-pengikutnya yang senantiasa setia melaksanakan ajarannya.

Tugas Akhir ini berjudul **"Studi 3 Alternatif Struktur Tower Baja 3 Kaki Setinggi 120 Meter Untuk Antena RCTI Di Sukoharjo-Jawa Tengah"** , merupakan syarat menyelesaikan program studi jurusan Teknik Sipil Lintas Jalur Ekstensi ITS, serta dalam rangka mengaplikasikan ilmu yang telah diperoleh selama di bangku kuliah, khususnya dalam hal ini bidang studi konstruksi baja.

Bagi pembaca yang kemungkinan membuka laporan tugas akhir ini, baik yang hanya membaca maupun mempelajari untuk sumber referensi, kami ucapkan terima kasih. Kami sadar dengan terbatasnya pengetahuan dan pengalaman dalam perencanaan struktur tower baja ini. Oleh karena itu, kritik dan saran selalu kami terima demi kesempurnaan laporan tugas akhir ini.

Tak lupa kami ingin mengucapkan terima kasih yang sebesar-besarnya kepada :

1. Kedua orang tua yang kami cintai atas do'a restunya.
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Akhir kata, semoga laporan tugas akhir ini dapat bermanfaat dan memberikan kontribusi kepada kita semua. Amin.

Surabaya, Juli 2005

Wuryanditya D.A.
Penyusun

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BAB I

PENDAHULUAN

BAB I
PENDAHULUAN

1.1. Latar Belakang

Dari waktu ke waktu dunia teknologi semakin maju dan berkembang seiring dengan tuntutan kebutuhan manusia yang semakin kompleks. Salah satunya adalah bidang informasi dan telekomunikasi yang semakin lama semakin canggih sehingga mempermudah manusia untuk mendapatkan informasi tanpa dibatasi oleh ruang dan waktu.

Oleh karena itu, untuk memenuhi dan melayani masyarakat akan kebutuhan informasi yang serba cepat tersebut, maka RCTI (Rajawali Citra Televisi Indonesia), salah satu televisi swasta nasional di Indonesia, merasa perlu membangun tower yang digunakan sebagai penyangga antena pemancar. Tower dirancang dengan konstruksi baja, yang merupakan salah satu dari bahan konstruksi yang paling penting.

Alasan dipakainya konstruksi baja adalah dapat mencapai ketinggian yang cukup tinggi serta mempunyai berat yang lebih ringan. Selain itu, sifatnya yang *ductile* , yaitu kesanggupannya menerima perubahan bentuk yang besar tanpa mengalami kerusakan, sehingga diharapkan dapat menahan beban yang terjadi.

Berdasarkan sifat-sifatnya, maka diharapkan konstruksi baja ini dapat memenuhi syarat-syarat sebagai penyangga pemancar.

1.2. Permasalahan

Di dalam penulisan tugas akhir ini, hal-hal yang akan dibahas adalah :

a. Bagaimana merencanakan struktur tower baja yang ekonomis dan efisien serta kuat dan aman dari beberapa modifikasi alternatif desain tower baja dengan ketinggian yang sama.
b. Bagaimana kontrol sway / goyangan yang terjadi akibat beban-beban lateral, agar struktur tower dapat berfungsi sebagai pemancar dengan hasil yang baik.
c. Bagaimana merencanakan sambungan profil struktur tower tersebut, agar antar profil tersebut dapat tersambung dengan kuat dan aman serta efisien.
d. Bagaimana merencanakan pondasi untuk menahan beban-beban yang terjadi dalam struktur tower baja tersebut.

1.3. Maksud dan Tujuan

Maksud penulisan tugas akhir ini adalah sebagai syarat untuk menyelesaikan program studi di jurusan Teknik Sipil, Fakultas Teknik Sipil dan Perencanaan ITS Surabaya.

Adapun tujuan yang diharapkan dari perencanaan struktur tower ini adalah sebagai berikut:

a. Untuk merencanakan struktur tower baja yang kuat dan aman didalam menahan beban yang terjadi.
b. Bisa mendapatkan dimensi penampang yang kuat, ekonomis dan efisien.
c. Dapat merencanakan struktur pondasi yang aman, untuk menahan beban-beban yang terjadi pada struktur.
d. Untuk menerapkan kegiatan perencanaan struktur baja, yang selama ini baru kami kenal melalui teori dari dalam kuliah.

1.4. Batasan Masalah

Penulisan tugas akhir ini dilakukan pembatasan ruang lingkup pembahasan, yaitu :

- Modifikasi struktur atas tower sebanyak 3 (tiga) alternatif
- Pemilihan alternatif berdasarkan bobot / berat tower yang terkecil
- Perencanaan struktur bawah / pondasi berdasarkan alternatif yang terpilih

Tugas akhir ini tidak membahas, antara lain :

✓ Perencanaan platform/bordes, tangga dan bangunan pelengkap lainnya
✓ Fabrikasi dan pelaksanaan dilapangan

1.5. Metodologi

Dalam penulisan tugas akhir ini direncanakan serangkaian tahapan kegiatan yang akan ditempuh, yaitu :

1. Pengumpulan data-data yang diperlukan.
2. Studi pustaka, yaitu mempelajari buku-buku yang berhubungan dengan perencanaan struktur tower baja.
3. Proses perhitungan struktur, meliputi :
   - Menentukan beberapa alternatif desain struktur tower.
   - Pembebanan struktur tower baja, yaitu :

a. Beban mati

Beban mati adalah berat dari semua bagian struktur yang bersifat tetap. Ada dua jenis beban mati yang digunakan untuk perhitungan struktur tower, meliputi :

- Berat sendiri struktur tower

  Perhitungan berat sendiri dalam analisa struktur dengan menggunakan program SAP2000, langsung bisa dihitung pada menu Define/Static Load Cases dengan pengali berat sendiri adalah satu.

- Beban antena

  Struktur tower ini didesain dengan beban antena sesuai dengan spesifikasi yang telah ditentukan oleh RCTI

b. Beban angin

Beban angin pada struktur tower baja ini dihitung sesuai dengan standar TIA (Telecommunication Industries Association) / EIA (Electronic Industries Association) – 222 – F. Gaya tiup ditentukan berdasarkan rumus :

$$F = qz \times G_H \times [(C_F \times A_E) + (\sum (C_A \times A_A))]$$

Dimana :

$qz = 0{,}613 \times K_z \times V^2$

$K_z = \left(\frac{z}{10}\right)^{\frac{2}{7}}$ $\quad [\, 1{,}00 \le K_z \le 2{,}58 \,]$

V = basic kecepatan angin yang dipakai untuk struktur (m/det)

z = tinggi antara tanah dengan titik tengah segmen struktur (m)

$G_H = 0{,}65 + \frac{0{,}60}{\left(\frac{H}{10}\right)^{\frac{1}{7}}}$

H = tinggi total $\quad [\, 1{,}00 \le G_H \le 1{,}25 \,]$

$C_F = (4{,}0 \times e^2) - (5{,}9 \times e) + 4{,}0$ Untuk 4 kaki

$= (3{,}4 \times e^2) - (4{,}7 \times e) + 3{,}4$ Untuk 3 kaki

$e = \frac{A_F + A_R}{A_G}$

A_F = 0,15 x lebar x elevasi titik tengah

A_G = lebar x elevasi titik tengah

A_R = 0 (diperhitungkan apabila ada pengaruh akibat hujan es)

$A_E = (D_F \times A_F) + (D_R \times A_R \times R_R)$

D_F = 1,00 (normal)

D_R = 1,00 (normal)

A_R = 0 (diperhitungkan apabila ada pengaruh akibat hujan es)

$R_R = (0{,}51 \times e^2) + 0{,}57 \; R_R \leq 1{,}0$

C_A = lihat tabel 3 EIA Standard

A_A = 0,5 elevasi titik tengah

c. Beban gempa

Beban gempa pada struktur tower baja ini dihitung dengan analisa beban dinamis sesuai dengan perumusan UBC 1997 dengan rumus :

$$V = \frac{Cv.I}{R.T} W$$

Dimana :

V = gaya geser total (kg)

Cv = koefisien gempa (tabel 16-Q)

I = faktor keutamaan (tabel 16-K)

R = koefisien numerik (tabel 16-P-R)

T = periode getar (detik)

W = berat total struktur (kg)

- Analisa struktur dengan menggunakan program SAP2000.
- Kontrol terhadap beban yang terjadi.
- Kontrol terhadap defleksi.
- Kontrol terhadap sway/goyangan.
- Pemilihan alternatif desain yang paling ekonomis.
- Perhitungan struktur bawah.

4. Penggambaran struktur.
5. Penyusunan laporan tugas akhir.
6. Evaluasi.
7. Penjilidan laporan tugas akhir.

BAB II

DATA PERENCANAAN

BAB II
DATA-DATA PERENCANAAN

2.1. Data Tower

- Tinggi tower : 120 meter
- Lebar dasar tower : 12 meter
- Lebar puncak tower : 2 meter
- Lokasi proyek : Sukoharjo - Solo – Jawa Tengah

2.2. Data Tanah

1. Sondir
2. Boring

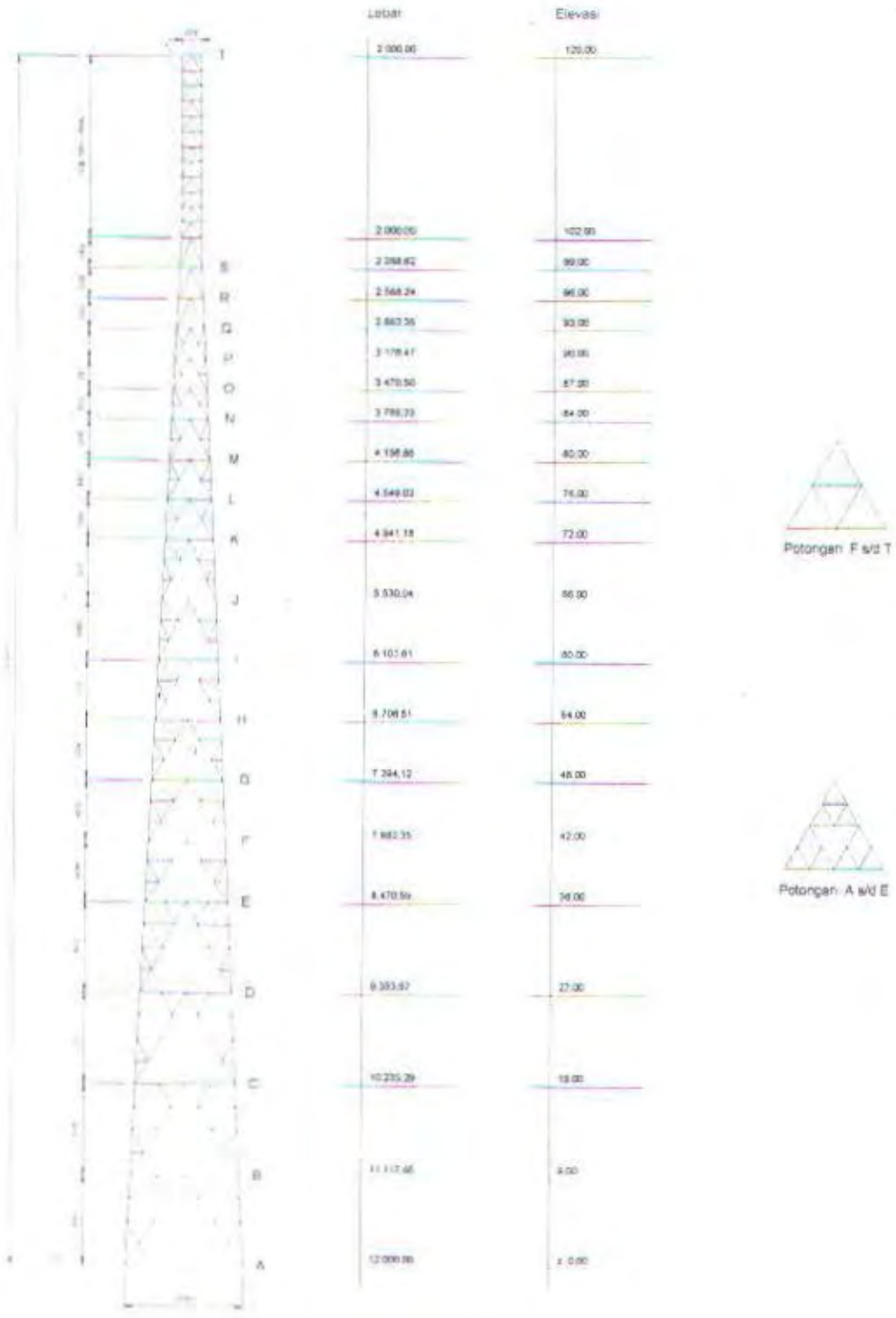
2.3. Mutu Bahan

1. Baja siku BJ37 ; fu = 3700 kg/cm2 ; fy = 2400 kg/cm2
2. Pelat BJ37 ; fu = 3700 kg/cm2 ; fy = 2400 kg/cm2
3. Baut ; fu = 3700 kg/cm2 ; fy = 2400 kg/cm2
4. Tulangan baton fy = 400 Mpa
5. Mutu baton fc' = 25 MPa

2.4. Alternatif Desain

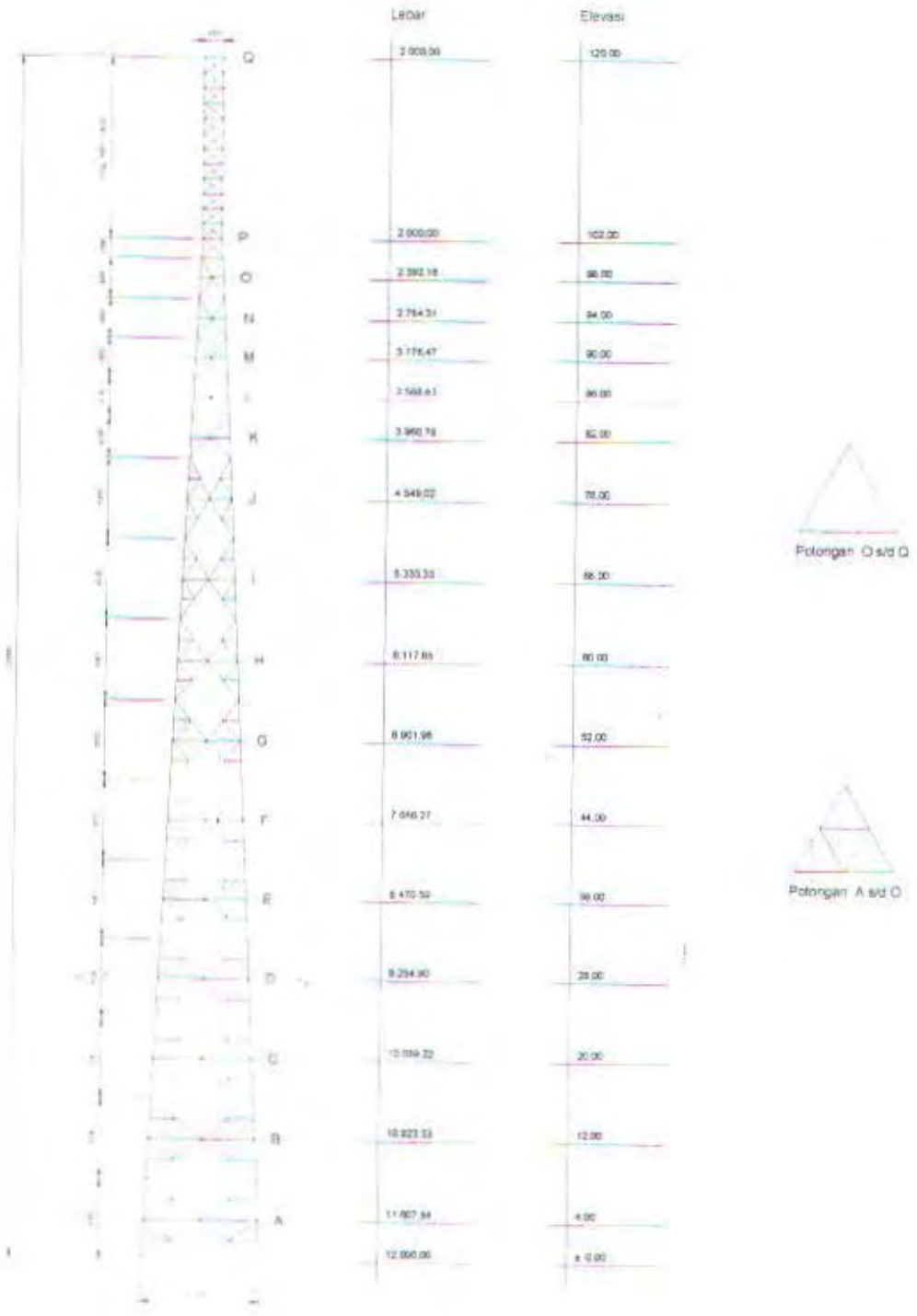
Modifikasi desain pada tower dengan mengubah bentuk bracing, sehingga nantinya akan diketahui apakah salah satu dari ketiga alternatif desain ini mempunyai bobot yang lebih ringan dari antena yang sudah terpasang atau tidak.

Bentuk dari masing-masing bracing antena yang akan dimodifikasi adalah sebagai berikut :



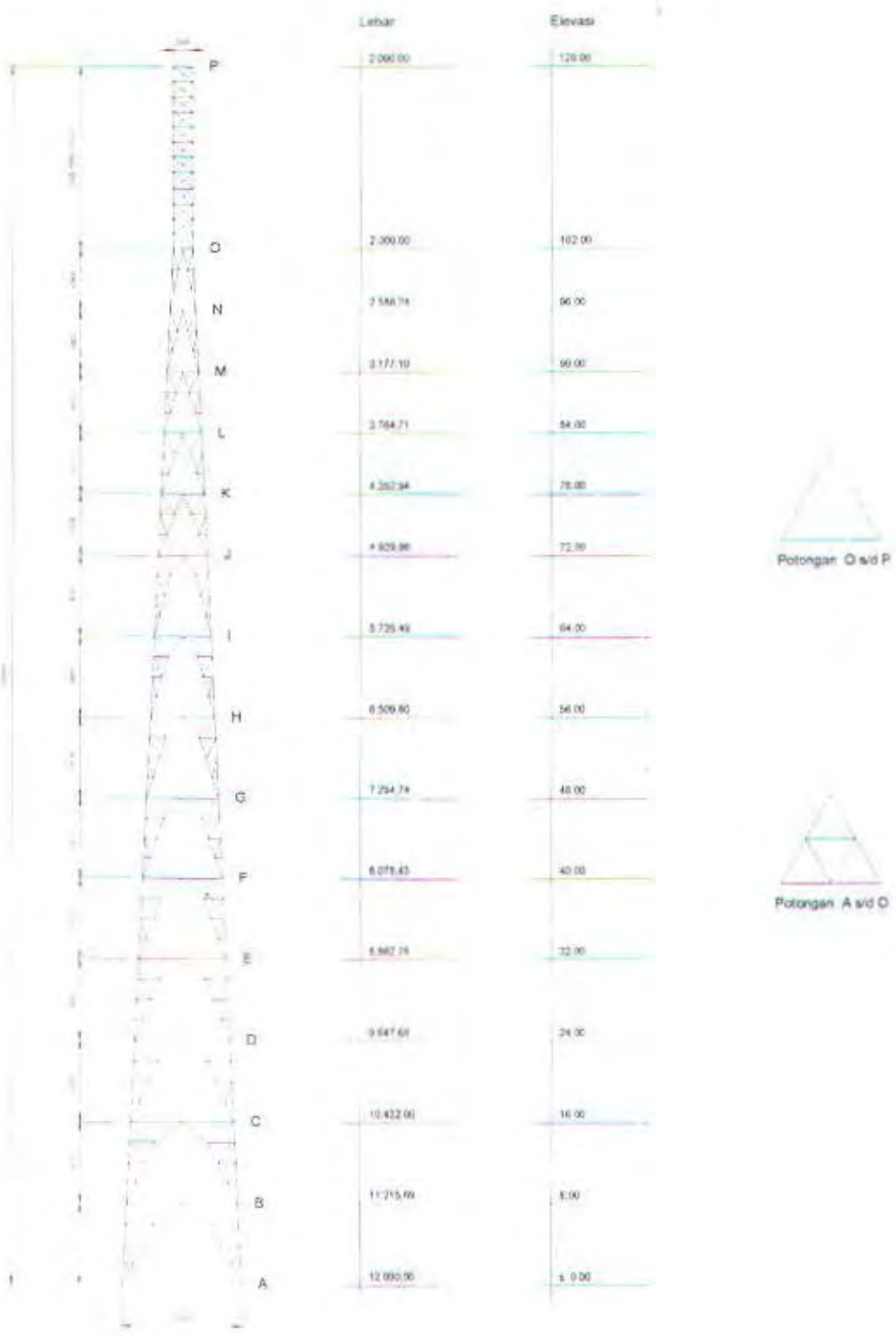
Gambar 2.1

Desain Sebelum Modifikasi



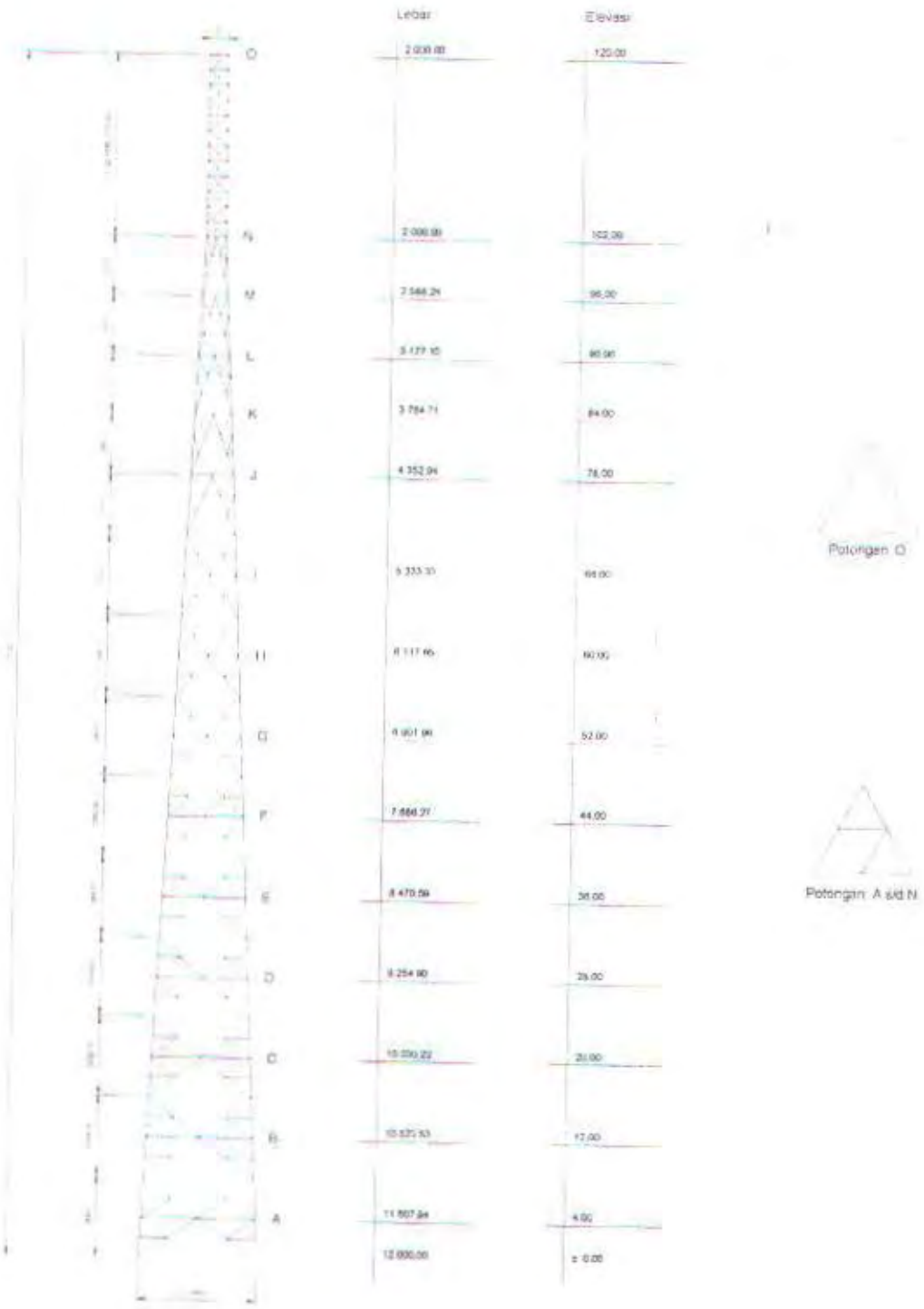
Gambar 2.2

Desain Modifikasi 1



Gambar 2.3

Desain Modifikasi 2



Gambar 2.4

Desain Modifikasi 3

BAB III

DASAR PERENCANAAN

BAB III
DASAR-DASAR PERENCANAAN

3.1. Pedoman Perhitungan

Pada tugas akhir ini perhitungan menggunakan konsep LRFD dari Tata Cara Perencanaan Struktur Baja untuk Bangunan Gedung tahun 2002. LRFD adalah konsep berdasarkan filosofi keadaan batas, yaitu suatu kondisi dimana struktur atau beberapa bagian dari struktur menunjukkan perilaku tidak dapat berfungsi.

Bagian perhitungan sesuai dengan konsep Tata Cara Perencanaan Struktur Baja untuk Bangunan Gedung tahun 2002 adalah sebagai berikut :

3.1.1 Perhitungan Akibat Gaya Tarik dan Tekan

Struktur tower baja diharapkan dapat menahan gaya tarik dan gaya tekan aksial akibat adanya beban-beban yang bekerja. Komponen struktur yang memikul gaya tarik aksial berfaktor Nu harus memenuhi :

$$Nu \leq \phi Nn$$

Dengan ϕ Nn adalah kuat tarik rencana yang besarnya diambil sebagai nilai terendah diantara dua perhitungan menggunakan harga-harga ϕ dan Nn dibawah ini .

$\phi = 0{,}9$

$Nn = Ag \cdot fy$

dan

$\phi = 0{,}75$

$Nn = Ae \cdot fu$

Dimana : Ag = luas penampang bruto (mm2)

Ae = luas penampang efektif (mm2)

fy = tegangan leleh (Mpa)

fu = tegangan tarik putus (Mpa)

$Ae = A \cdot U$

A = luas penampang netto

U = faktor reduksi $1 - (x / L) \leq 0{,}9$

x = eksentrisitas sambungan, jarak tegak lurus arah gaya tarik antara titik berat penampang komponen yang disambung dengan bidang sambungan (mm)

Sedangkan suatu struktur yang mengalami gaya tekan akibat beban terfaktor Nu harus memenuhi persyaratan sebagai berikut :

1. $Nu < \phi . Nn$

   Keterangan :

   ϕ = faktor reduksi kekuatan sebesar 0,85

   Nn = kuat tekan nominal komponen struktur yang ditentukan berdasarkan butir 7.6.2 (Tata Cara PSBUBG).

   $Nn = Ag.\frac{fy}{w}$

   Kelangsingan kolom (λc) = $\frac{1}{\pi}.\lambda\sqrt{\frac{fy}{E}}$

   $\lambda = \frac{lk}{r}$

   $\lambda c \leq 0,25 \Rightarrow w = 1$

   $0,25 < \lambda c < 1,20 \Rightarrow w = \frac{1,43}{1,6 - 0,67.\lambda c}$

   $\lambda c > 1,20 \Rightarrow$ mn $w = 1,25.\lambda c^2$

2. Pebandingan kelangsingan

   - Kelangsingan elemen penampang < λr (lihat tabel 7.5-1 PSBUBG)

     Untuk profil siku, $b/t < \lambda r = \frac{200}{\sqrt{fy}}$

   - Kelangsingan komponen struktur tekan, $\lambda = \frac{lk}{r} < 200$

     Lk = panjang tekuk

     Lk = Kc x L

     Untuk batang tekan dalam struktur segitiga Lk tidak boleh diambil kurang dari panjang teoritis batang

     Kc = faktor tekuk

     L = panjang batang

     R = jari-jari girasi

3.1.2. Kekuatan Baut

Suatu baut yang memikul gaya terfaktor Ru harus memenuhi :

$$Ru \leq \phi . Rn$$

dimana : ϕ = faktor reduksi kekuatan

Rn = kuat nominal baut

Kekuatan baut tipe tumpu dapat dihitung sebagai berikut :

Kuat geser : $\phi.Rn = 0,75 \times (0,5 \times fu) \times n \times Ab$

dimana : fu = tegangan putus baut

Ab = luas penampang baut

n = jumlah bidang geser

Kuat tumpu : $\phi.Rn = 0,75 \times (2,4 \times d \times tp \times fu)$

fu = tegangan putus baut atau pelat (mana yang lebih kecil)

d = diameter baut

tp = tebal pelat terkecil

$\phi.Rn$ = harga terkecil dari kuat geser dan kuat tumpu

$$\text{Banyaknya baut } (n) = \frac{Vu}{\varphi.Rn}$$

n = minimal 2 baut

Kontrol kekuatan pelat penyambung :

$$\left[\left(\frac{Nut}{\varphi t \times Nnt}\right)+\left(\frac{Mu}{\varphi b \times Mn}\right)\right]^2+\left(\frac{Vu}{\varphi v \times Vn}\right)^2 \leq 1$$

dimana : Nut = gaya normal

Mu = gaya momen

Vu = gaya lintang / geser

$\phi t \times Nnt$ = harga terkecil dari

$= 0,9 \times fy \times Ag$

$= 0,75 \times fu \times An$

$\phi b \times Mn = 0,9 \times z \times fy$

$\phi v \times Vn = 0,75 \times (0,6 \times An \times fu)$

3.2. Kriteria Desain

Berdasarkan spesifikasi yang dikeluarkan oleh pihak RCTI, struktur tower harus memenuhi syarat-syarat agar dalam pelayanannya dapat berfungsi dengan baik, yaitu defleksi maksimum pada puncak tower adalah sebesar 0,5° atau 50 cm (mana yang lebih kecil).

3.3. Peraturan Yang Dipakai

1. Tata Cara Perencanaan Struktur Baja untuk Bangunan Gedung menggunakan metode LRFD.
2. Peraturan Pembebanan Indonesia untuk Gedung 1983.
3. Tata Cara Perhitungan Struktur Baton untuk Bangunan Gedung SK SNI T-15-1991-03.
4. Peraturan Perencanaan Tahan Gempa Indonesia untuk Gedung 1983.

BAB IV

PERHITUNGAN PEMBEBANAN DAN ANALISA STRUKTUR

BAB IV

PERHITUNGAN PEMBEBANAN DAN ANALISA STRUKTUR

4.1. Perhitungan Beban Mati

Beban mati adalah berat dari semua bagian struktur yang bersifat tetap. Ada dua jenis beban mati yang digunakan dalam perhitungan struktur tower, yang meliputi :

4.1.1. Berat Sendiri Struktur Tower

Perhitungan berat sendiri dalam analisa struktur dengan menggunakan program SAP2000 langsung bisa dihitung pada menu Define/Static Load Case dengan pengali berat sendiri ialah satu.

4.1.2. Beban Antena

Struktur tower ini didesain dengan beban antena sesuai dengan spesifikasi yang telah dikeluarkan oleh pihak RCTI, yaitu :

1. Antena Utama :

Berat	: 400 kg
Tinggi	: 14 m
Beban angin pada kecepatan V = 160 km/jam	: 30 kN = 3000 kg
Penempatan	: pada puncak tower

2. Antena Kedua :

Berat	: 3000 kg
Tinggi	: 12 m
Beban angin pada kecepatan V = 160 km/jam	: 25 kN = 2500 kg
Penempatan	: sisi mounting pada level 100 – 120 m

3. Antena Ketiga :

Berat	: 2000 kg
Tinggi	: 8 m
Beban angin pada kecepatan V = 160 km/jam	: 18 kN = 1800 kg
Penempatan	: sisi mounting pada level 80 – 100 m

4. Antena Keempat (antena parabola) :

Berat	: 300 kg
Jumlah	: 2 set

Diameter : 8 m

Penempatan : sisi mounting pada level 70 m

Beban angin pada kecepatan V = 160 km/jam = 44,44 m/det berdasarkan perhitungan :

$$\text{Luas antena} = \frac{1}{4}\pi.d^2 = \frac{1}{4}\pi.8^2 = 50{,}27\ m^2$$

$$\text{Beban angin (P)} = \frac{V^2}{30}.H^{0,25}.A$$

$$= \frac{44{,}44^2}{30}.70^{0,25}.50{,}27 = 9572{,}17\ kg$$

5. Feeder Utama :

a. Diameter : 5" = 5 x 2,54 = 12,70 cm = 0,127 m

Berat : 4 kg/m = 4 x 0,127 m = 0,51 kg

Jumlah : 2 set

Penempatan : sisi mounting pada level 120 m

Beban angin pada kecepatan V = 160 km/jam = 44,44 m/det berdasarkan perhitungan :

$$\text{Luas antena} = \frac{1}{4}\pi.d^2 = \frac{1}{4}\pi.0{,}127^2 = 0{,}013\ m^2$$

$$\text{Beban angin (P)} = \frac{V^2}{30}.H^{0,25}.A$$

$$= \frac{44{,}44^2}{30}.120^{0,25}.0{,}013 = 2{,}83\ kg$$

b Diameter : 4 1/8" = 4 1/8 x 2,54 = 10,478 cm = 0,105 m

Berat : 4 kg/m = 4 x 0,105 m = 0,42 kg

Jumlah : 2 set

Penempatan : sisi mounting pada level 100 m

Beban angin pada kecepatan V = 160 km/jam = 44,44 m/det berdasarkan perhitungan :

$$\text{Luas antena} = \frac{1}{4}\pi.d^2 = \frac{1}{4}\pi.0{,}105^2 = 0{,}009\ m^2$$

$$\text{Beban angin (P)} = \frac{V^2}{30}.H^{0,25}.A$$

$$= \frac{44{,}44^2}{30}.100^{0,25}.0{,}105 = 21{,}86\ kg$$

c. Diameter : 3 1/8" = 3 1/8 x 2,54 = 7,938 cm = 0,079 m

Berat : 4 kg/m = 4 x 0,079 m = 0,32 kg

Jumlah : 4 set

Penempatan : sisi mounting pada level 80 m

Beban angin pada kecepatan V = 160 km/jam = 44,44 m/det berdasarkan perhitungan :

$$\text{Luas antena} = \frac{1}{4}\pi.d^2 = \frac{1}{4}\pi.0{,}079^2 = 0{,}005\ m^2$$

$$\text{Beban angin (P)} = \frac{V^2}{30}.H^{0.25}.A$$

$$= \frac{44{,}44^2}{30}.80^{0.25}.0{,}079 = 15{,}55\ kg$$

4.2. Perhitungan Beban Hidup

Beban hidup adalah semua beban yang terjadi akibat penggunaan tower. Beban hidup ini direncanakan sebesar 200 kg/m^2 yang terdistribusi pada joint-joint platform/bordes.

Platform/bordes yang dibebani beban hidup tersebut dipasang sesuai dengan spesifikasi RCTI, yaitu :

Platform untuk bekerja dipasang : 1 set pada ketinggian ± 36 m
1 set pada ketinggian ± 72 m
1 set pada ketinggian ± 102 m

Platform untuk beristirahat dipasang : 1 set pada ketinggian ± 18 m
1 set pada ketinggian ± 54 m
1 set pada ketinggian ± 90 m

Disesuaikan dengan bentuk dari bracing tower, maka perhitungan beban hidup dapat ditabelkan sebagai berikut :

Tabel 4.2.1. Perhitungan beban hidup

Desain Tower Modifikasi 1

Tinggi Platform	Profil siku	Panjang (m)	Luas (m)	Berat (kg)	Jumlah Joint	Berat per Joint (kg)
20 m	L 40.40.4	10.04	0.40	80.31	6.00	13.39
36 m	L 40.40.4	8.47	0.34	67.76	6.00	11.29
60 m	L 40.40.4	6.12	0.24	48.94	6.00	8.16

76 m	L 40.40.4	4.55	0.18	36.39	6.00	6.07
90 m	L 40.40.4	3.18	0.13	25.41	6.00	4.23
102 m	L 40.40.4	2.00	0.08	16.00	6.00	2.67

Tabel 4.2.2. Perhitungan beban hidup

Desain Tower Modifikasi 2

Tinggi Platform	Profil siku	Panjang (m)	Luas (m)	Berat (kg)	Jumlah Joint	Berat per Joint (kg)
16 m	L 40.40.4	10.43	0.42	83.46	6.00	13.91
32 m	L 40.40.4	8.86	0.35	70.90	6.00	11.82
56 m	L 40.40.4	6.51	0.26	52.07	6.00	8.68
72 m	L 40.40.4	4.93	0.20	39.43	6.00	6.57
90 m	L 40.40.4	3.18	0.13	25.42	6.00	4.24
102 m	L 40.40.4	2.00	0.08	16.00	6.00	2.67

Tabel 4.2.3. Perhitungan beban hidup

Desain Tower Modifikasi 3

Tinggi Platform	Profil siku	Panjang (m)	Luas (m)	Berat (kg)	Jumlah Joint	Berat per Joint (kg)
20 m	L 40.40.4	10.04	0.40	80.31	6.00	13.39
36 m	L 40.40.4	8.47	0.34	67.76	6.00	11.29
60 m	L 40.40.4	6.12	0.24	48.94	6.00	8.16
78 m	L 40.40.4	4.35	0.17	34.82	6.00	5.80
90 m	L 40.40.4	3.18	0.13	25.41	6.00	4.23
102 m	L 40.40.4	2.00	0.08	16.00	6.00	2.67

4.3. Perhitungan Beban Angin

5.3.1. Berat Angin Pada Struktur Tower

Beban angin struktur tower baja ini dihitung sesuai dengan standar TIA/EIA-222-F Sructural Standard for Steel Antenna Towers and Antenna Supporting Structures. Gaya tiup angin ditentukan berdasarkan rumus seperti pada point 1.5, yaitu :

$F = qz \times G_H \times [(C_F \times A_F) + (\sum (C_A \times A_A))]$

tetapi tidak boleh melebihi dari nilai $F' = 2 \times qz \times G_H \times A_G$

Dimana :

$qz = 0.613 \times K_z \times V^2$

$K_z = \left(\frac{z}{10}\right)^{\frac{2}{7}}$ $\quad [\,1{,}00 \le K_z \le 2{,}58\,]$

V = basic kecepatan angin yang dipakai untuk struktur (m/det)

z = tinggi antara tanah dengan titik tengah segmen struktur (m)

$G_H = 0{,}65 + \frac{0{,}60}{\left(\frac{H}{10}\right)^{\frac{1}{7}}}$

H = tinggi total $\quad [\,1{,}00 \le G_H \le 1{,}25\,]$

$C_f = (4{,}0 \times e^2) - (5{,}9 \times e) + 4{,}0$ Untuk 4 kaki

$= (3{,}4 \times e^2) - (4{,}7 \times e) + 3{,}4$ Untuk 3 kaki

$e = \frac{A_F + A_R}{A_G}$

A_F = 0,15 x lebar x elevasi titik tengah

A_G = lebar x elevasi titik tengah

A_R = 0 (diperhitungkan apabila ada pengaruh akibat hujan es)

$A_E = (D_F \times A_F) + (D_R \times A_R \times R_R)$

D_F = 1,00 (normal)

D_R = 1,00 (normal)

A_R = 0 (diperhitungkan apabila ada pengaruh akibat hujan es)

$R_R = (0{,}51 \times e^{-2}) + 0{,}57 \quad R_R = 1{,}0$

C_A = lihat tabel 3 EIA Standard

A_A = 0,5 x elevasi titik tengah

Sebagai contoh perhitungan beban angin untuk tower 120 meter desain modifikasi alternatif I titik A dengan ketinggian 4,00 meter sebagai berikut :

Kecepatan angin = 160 km/jam = 44,44 m/detik

Arah angin = normal

D_f = 1,00 (dari tabel 2 Peraturan TIA)

C_A = 1,46 (dari tabel 3 Peraturan TIA)

Tinggi tower = 120 m

Lebar bawah tower 12 m

Aspek rasio = $\frac{\text{Tinggi tower}}{\text{Lebar bawah tower}}$

= $\frac{120}{12} = 10$

Elevasi = 4,00 m

Midpoint / titik tengah = elevasi titik yang ditinjau – elevasi titik dibawahnya

= 4,00 m – 0 = 4,00 m

Lebar segmen = 11,61 m

A_1 = 0,15 x lebar x elevasi titik tengah

= 0,15 x 11,61 x 4,00 = 6,96 m^2

A_{G1} = lebar x elevasi titik tengah

= 11,61 x 4,00 = 46,43 m^2

K_Z = $\left(\frac{z}{10}\right)^{\frac{2}{7}}$ [$1,00 \leq K_Z \leq 2,58$]

= $\left(\frac{4}{10}\right)^{\frac{2}{7}} = 0,77 < 1$ maka dipakai Kz = 1,00

G_H = $0,65 + \frac{0,60}{\left(\frac{H}{10}\right)^{\frac{1}{7}}}$

$0,65 + \frac{0,60}{\left(\frac{120}{10}\right)^{\frac{1}{7}}} = 1,07$

q_Z = $0,613 \times K_Z \times V^2$

q_Z = $0,613 \times 1,00 \times 44,44^2 = 1.210,86$ Pa

= 121,09 kg/m^2

e = $\frac{A_1 + A_2}{A_G}$

= $\frac{16,61 + 0}{110,70} = 0,15$

C_1 = $(3,4 \times e^2) - (4,7 \times e) + 3,4$

$(3,4 \times 0,15^2) - (4,7 \times 0,15) + 3,4 = 2,77$

R_B = $(0,51 \times e^2) + 0,57$

= $(0,51 \times 0,15^2) + 0,57 = 0,58$

D_R = 1.00 (normal)

A_E = $(D_F \times A_F) + (D_R \times A_R \times R_R)$

= (1,00 x 6,96) + (1,00 x 0 x 0.58) = 6,96

A_A = 0,5 x elevasi titik tengah

= 0,5 x 4,00 = 2,00 m

F = $qz \times G_H \times [(C_F \times A_E) + (\sum (C_A \times A_A))]$

= 121,09 x 1,07 x [(2,77 x 6,96) + 87,46] = 13.832,51 kg

F' = $2 \times qz \times G_H \times A_G$

= 2 x 121,09 x 1,07 x 46,43 = 12.030,65 kg

F pakai = 13.832,51 kg

Jumlah joint = 36

Gaya angin (W) pada masing-masing joint

$$\frac{F}{\text{jumlah joint}}$$

$$\frac{13.832,51}{36} = 334,18 \text{ kg}$$

Untuk perhitungan yang lainnya dapat dilihat pada tabel berikut ini :

ANALISA DAN DESAIN STRUKTUR DARI TOWER MODIFIKASI ALTERNATIF 1

Perhitungan beban angin berdasarkan standar TIA / EIA - 222 - F

Kecepatan dasar angin	160.00	Kph
	44.44	m/s
Bentuk tower	Tower 3 kaki dengan sudut 60°	
Arah angin	Normal	
DF	1.00	(dari tabel 2 TIA)
CA	1.46	(dari tabel 3 TIA)
Tinggi	120.00	mm
Lebar bawah	12.00	mm
Aspek rasio	10.00	(perbandingan antara tinggi dan lebar bawah tower)

SECTION						FORCE												Jumlah Joint	F per joint W (kg)
Segmen	Elevasi (m)	Midpoint (m)	Lebar (m)	AF (m2)	AG (m2)	Kz	GH	qz (Pa)	qz (kg/m2)	e	CF	AE (m2)	AA (m2)	CA x AA	F (kg)	F' (kg)	F pakai (kg)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	4.00	4.00	11.81	6.96	46.43	1.00	1.07	1,210.86	121.09	0.15	2.77	6.96	2.00	2.92	13,632.51	12,030.65	12,030.65	32.00	375.96
B	12.00	8.00	10.82	12.99	86.58	1.05	1.07	1,275.61	127.56	0.15	2.77	12.99	4.00	5.83	16,850.73	23,035.79	16,850.73	36.00	468.08
C	20.00	8.00	10.04	12.05	80.31	1.22	1.07	1,476.06	147.61	0.15	2.77	12.05	4.00	5.83	19,086.81	25,368.70	19,086.81	36.00	530.19
D	28.00	8.00	9.25	11.10	74.03	1.34	1.07	1,625.01	162.50	0.15	2.77	11.10	4.00	5.83	20,558.87	25,744.72	20,558.87	36.00	571.08
E	36.00	8.00	8.47	10.16	67.76	1.44	1.07	1,745.98	174.60	0.15	2.77	10.16	4.00	5.83	21,602.25	25,317.61	21,602.25	36.00	600.06
F	44.00	8.00	7.69	9.22	61.49	1.53	1.07	1,849.01	184.90	0.15	2.77	9.22	4.00	5.83	22,361.14	24,330.06	22,361.14	36.00	621.14
G	52.00	8.00	6.90	8.28	55.21	1.60	1.07	1,939.40	193.94	0.15	2.77	8.28	4.00	5.83	22,912.54	22,913.09	22,912.54	36.00	636.46
H	60.00	8.00	6.12	7.34	48.94	1.67	1.07	2,020.34	202.03	0.15	2.77	7.34	4.00	5.83	23,305.09	21,157.61	21,157.61	36.00	587.71
I	68.00	8.00	5.33	6.40	42.66	1.73	1.07	2,093.90	209.39	0.15	2.77	6.40	4.00	5.83	23,589.39	19,117.47	19,117.47	36.00	531.04
J	76.00	8.00	4.55	5.46	36.39	1.79	1.07	2,161.51	216.15	0.15	2.77	5.46	4.00	5.83	23,727.38	16,833.57	16,833.57	36.00	467.60
K	82.00	8.00	3.98	3.56	23.76	1.82	1.07	2,208.95	220.89	0.15	2.77	3.56	3.00	4.37	23,006.92	11,231.70	11,231.70	12.00	935.97
L	86.00	4.00	3.57	2.14	14.27	1.85	1.07	2,239.21	223.92	0.15	2.77	2.14	2.00	2.92	22,377.08	6,839.02	6,839.02	12.00	569.92
M	90.00	4.00	3.18	1.91	12.70	1.87	1.07	2,268.49	226.85	0.15	2.77	1.91	2.00	2.92	22,511.42	6,167.23	6,167.23	12.00	513.94
N	94.00	4.00	2.78	1.67	11.14	1.90	1.07	2,296.85	229.68	0.15	2.77	1.67	2.00	2.92	22,632.65	5,473.62	5,473.62	12.00	456.14
O	98.00	4.00	2.39	1.44	9.57	1.92	1.07	2,324.36	232.44	0.15	2.77	1.44	2.00	2.92	22,741.61	4,759.24	4,759.24	12.00	396.60
P	102.00	4.00	2.00	1.20	8.00	1.94	1.07	2,351.08	235.11	0.15	2.77	1.20	2.00	2.92	22,839.06	4,025.04	4,025.04	8.00	503.13
	104.00	2.00	2.00	0.60	4.00	1.95	1.07	2,364.18	236.42	0.15	2.77	0.60	1.00	1.46	22,545.47	2,023.72	2,023.72	8.00	252.96
	106.00	2.00	2.00	0.60	4.00	1.96	1.07	2,377.06	237.71	0.15	2.77	0.60	1.00	1.46	22,666.50	2,034.76	2,034.76	8.00	254.35
	108.00	2.00	2.00	0.60	4.00	1.97	1.07	2,389.75	238.98	0.15	2.77	0.60	1.00	1.46	22,786.89	2,045.66	2,045.66	8.00	255.71
	110.00	2.00	2.00	0.60	4.00	1.98	1.07	2,402.35	240.23	0.15	2.77	0.60	1.00	1.46	22,909.66	2,056.41	2,056.41	8.00	257.05
	112.00	2.00	2.00	0.60	4.00	1.99	1.07	2,414.75	241.47	0.15	2.77	0.60	1.00	1.46	23,027.93	2,067.03	2,067.03	8.00	258.38
	114.00	2.00	2.00	0.60	4.00	2.00	1.07	2,426.96	242.70	0.15	2.77	0.60	1.00	1.46	23,144.67	2,077.50	2,077.50	8.00	259.69
	116.00	2.00	2.00	0.60	4.00	2.01	1.07	2,439.08	243.91	0.15	2.77	0.60	1.00	1.46	23,259.97	2,087.85	2,087.85	8.00	260.98
	118.00	2.00	2.00	0.60	4.00	2.02	1.07	2,451.02	245.10	0.15	2.77	0.60	1.00	1.46	23,373.85	2,098.08	2,098.08	8.00	262.26
Q	120.00	2.00	2.00	0.60	4.00	2.03	1.07	2,462.82	246.28	0.15	2.77	0.60	1.00	1.46	23,486.36	2,108.18	2,108.18	8.00	263.52
													Σ (CA x AA)	57.46					

ANALISA DAN DESAIN STRUKTUR DARI TOWER MODIFIKASI ALTERNATIF 1

Perhitungan beban angin berdasarkan standar TIA / EIA - 222 - F

Kecepatan dasar angin		160.00	Kph
		44.44	m/s
Bentuk tower		Tower 3 kaki dengan sudut 60°	
Arah angin		45°	
	Df	0.80	(dari tabel 2 TIA)
	CA	1.46	(dari tabel 3 TIA)
Tinggi		120.00	mm
Lebar bawah		12.00	mm
Aspek rasio		10.00	(perbandingan antara tinggi dan lebar bawah tower)

SECTION						FORCE												Jumlah Joint	F per joint W (kg)
Segmen	Elevasi (m)	Midpoint (m)	Lebar (m)	AF (m2)	AG (m2)	Kz	GH	qz (Pa)	qz (kg/m2)	e	CF	AE (m2)	AA (m2)	CA x AA	F (kg)	F' (kg)	F paksa (kg)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	4.00	4.00	11.61	6.96	46.41	1.00	1.07	1,210.86	121.09	0.15	2.77	5.57	2.00	2.92	13,332.37	12,030.65	12,030.65	36.00	334.18
B	12.00	8.00	10.82	12.99	86.54	1.05	1.07	1,275.61	127.56	0.15	2.77	10.39	4.00	5.83	15,868.13	23,635.79	15,868.13	36.00	440.78
C	20.00	8.00	10.04	12.05	80.31	1.22	1.07	1,476.06	147.61	0.15	2.77	9.64	4.00	5.83	18,032.17	26,368.70	18,032.17	36.00	500.89
D	28.00	8.00	9.25	11.10	74.03	1.34	1.07	1,625.01	162.50	0.15	2.77	8.88	4.00	5.83	19,488.60	25,744.72	19,488.60	36.00	541.35
E	36.00	8.00	8.47	10.16	67.74	1.44	1.07	1,745.98	174.60	0.15	2.77	8.13	4.00	5.83	20,549.73	25,317.81	20,549.73	36.00	570.83
F	44.00	8.00	7.69	9.22	61.43	1.53	1.07	1,849.01	184.90	0.15	2.77	7.38	4.00	5.83	21,349.68	24,330.06	21,349.68	36.00	593.05
G	52.00	8.00	6.90	8.26	55.21	1.60	1.07	1,939.40	193.94	0.15	2.77	6.62	4.00	5.83	21,959.96	22,913.09	21,959.96	36.00	610.00
H	60.00	8.00	6.12	7.34	48.94	1.67	1.07	2,020.34	202.03	0.15	2.77	5.87	4.00	5.83	22,425.51	21,157.81	21,157.81	36.00	587.71
I	68.00	8.00	5.33	6.40	42.66	1.73	1.07	2,093.80	209.39	0.15	2.77	5.12	4.00	5.83	22,774.60	19,117.47	19,117.47	36.00	531.04
J	76.00	8.00	4.55	5.46	36.39	1.79	1.07	2,161.51	216.15	0.15	2.77	4.37	4.00	5.83	23,027.57	16,833.57	16,833.57	36.00	467.60
K	92.00	8.00	3.96	3.56	23.74	1.82	1.07	2,206.95	220.69	0.15	2.77	2.85	3.00	4.37	22,539.99	11,231.70	11,231.70	12.00	935.97
L	88.00	4.00	3.57	2.14	14.27	1.85	1.07	2,239.21	223.92	0.15	2.77	1.71	2.00	2.92	22,092.77	6,839.02	6,839.02	12.00	569.92
M	80.00	4.00	3.18	1.91	12.72	1.87	1.07	2,268.49	226.85	0.15	2.77	1.52	2.00	2.92	22,255.03	6,167.23	6,167.23	12.00	513.94
N	84.00	4.00	2.78	1.67	11.14	1.90	1.07	2,296.85	229.68	0.15	2.77	1.34	2.00	2.92	22,405.10	5,473.62	5,473.62	12.00	456.14
O	88.00	4.00	2.39	1.44	9.57	1.92	1.07	2,324.36	232.44	0.15	2.77	1.15	2.00	2.92	22,543.76	4,759.24	4,759.24	12.00	396.60
P	102.00	4.00	2.00	1.20	8.00	1.94	1.07	2,351.08	235.11	0.15	2.77	0.96	2.00	2.92	22,671.73	4,025.04	4,025.04	8.00	503.13
	104.00	2.00	2.00	0.60	4.00	1.95	1.07	2,364.16	236.42	0.15	2.77	0.48	1.00	1.46	22,481.34	2,023.72	2,023.72	8.00	252.96
	106.00	2.00	2.00	0.60	4.00	1.96	1.07	2,377.06	237.71	0.15	2.77	0.48	1.00	1.46	22,583.91	2,034.76	2,034.76	8.00	254.35
	108.00	2.00	2.00	0.60	4.00	1.97	1.07	2,389.79	238.98	0.15	2.77	0.48	1.00	1.46	22,704.86	2,045.66	2,045.66	8.00	255.71
	110.00	2.00	2.00	0.60	4.00	1.98	1.07	2,402.35	240.23	0.15	2.77	0.48	1.00	1.46	22,824.19	2,056.41	2,056.41	8.00	257.05
	112.00	2.00	2.00	0.60	4.00	1.99	1.07	2,414.75	241.47	0.15	2.77	0.48	1.00	1.46	22,942.00	2,067.03	2,067.03	8.00	258.38
	114.00	2.00	2.00	0.60	4.00	2.00	1.07	2,426.99	242.70	0.15	2.77	0.48	1.00	1.46	23,058.31	2,077.50	2,077.50	8.00	259.69
	116.00	2.00	2.00	0.60	4.00	2.01	1.07	2,439.06	243.91	0.15	2.77	0.48	1.00	1.46	23,173.17	2,087.85	2,087.85	8.00	260.98
	118.00	2.00	2.00	0.60	4.00	2.02	1.07	2,451.02	245.10	0.15	2.77	0.48	1.00	1.46	23,286.63	2,098.08	2,098.08	8.00	262.26
Q	120.00	2.00	2.00	0.60	4.00	2.03	1.07	2,462.82	246.28	0.15	2.77	0.48	1.00	1.46	23,398.72	2,108.18	2,108.18	8.00	263.52
													Σ [CA x AA]	67.46					

ANALISA DAN DESAIN STRUKTUR JARI TOWER MODIFIKASI ALTERNATIF 2

Perhitungan beban angin berdasarkan standar SNI 1727:2013

Kecepatan dasar angin : 100.00 mph

Bentuk tower : 44.00 m/s

Arah angin : Tegak lurus dengan muka (0°)

Tinggi : 1.00 (dari tabel 2.3(4))

Lebar bawah : 1.00 (dari tabel 2.3(4))

Aspek rasio : 1.00 mm

1.00 (perbandingan antara tinggi dan lebar bawah tower)

DESAIN						FORCE													
Segmen	Elevasi (m)	Modul (m)	Lebar (m)	AF (m2)	AG (m2)	Kz	GH	qz (Pa)	qz (kg/m2)	e	CF	AE (m2)	AA (m2)	CA x AA	F (kg)	F' (kg)	F pakai (kg)	Jumlah Joint	F per joint W (kg)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A																			
B																			
C					89.72	0.94	1.07	1,136.07	113.61	0.15	2.77	13.46	4.00	5.83	15,165.93	21,812.72	15,165.93	44.00	344.68
D					83.46	1.14	1.07	1,384.89	138.49	0.15	2.77	12.52	4.00	5.83	18,101.59	24,733.57	18,101.59	44.00	411.40
E					77.18	1.28	1.07	1,554.99	155.50	0.15	2.77	11.58	4.00	5.83	19,890.51	25,681.67	19,890.51	44.00	452.06
F					70.90	1.39	1.07	1,688.20	168.82	0.15	2.77	10.63	4.00	5.83	21,122.88	25,612.94	21,122.88	44.00	480.07
G					64.62	1.49	1.07	1,799.34	179.93	0.15	2.77	9.69	4.00	5.83	22,011.43	24,684.00	22,011.43	44.00	500.26
H					58.35	1.57	1.07	1,885.55	189.56	0.15	2.77	8.75	4.00	5.83	22,659.59	23,670.38	22,659.59	44.00	514.99
I					52.07	1.64	1.07	1,980.90	196.09	0.15	2.77	7.81	4.00	5.83	23,126.52	22,074.02	22,074.02	44.00	501.68
J					45.80	1.70	1.07	2,057.94	205.79	0.15	2.77	6.87	4.00	5.83	23,451.73	20,170.28	20,170.28	44.00	458.42
K					39.43	1.76	1.07	2,128.37	212.84	0.15	2.77	5.91	4.00	5.83	23,651.47	17,960.16	17,960.16	44.00	408.19
L					26.11	1.80	1.07	2,177.61	217.76	0.15	2.77	3.92	3.00	4.37	22,908.35	12,166.40	12,166.40	44.00	276.55
M					22.58	1.84	1.07	2,224.21	222.42	0.15	2.77	3.39	3.00	4.37	23,049.52	10,749.54	10,749.54	44.00	244.31
N					19.08	1.87	1.07	2,268.49	226.85	0.15	2.77	2.86	3.00	4.37	23,152.99	9,253.76	9,253.76	44.00	210.31
O					15.53	1.91	1.07	2,310.70	231.07	0.15	2.77	2.33	3.00	4.37	23,220.64	7,678.45	7,678.45	44.00	174.51
					12.00	1.94	1.07	2,351.06	235.11	0.15	2.77	1.80	3.00	4.37	23,257.39	6,037.57	6,037.57	44.00	137.22
					4.00	1.95	1.07	2,364.16	236.42	0.15	2.77	0.60	1.00	1.46	22,545.47	2,023.72	2,023.72	8.00	252.96
					4.00	1.96	1.07	2,377.06	237.71	0.15	2.77	0.60	1.00	1.46	22,668.50	2,034.76	2,034.76	8.00	254.35
					4.00	1.97	1.07	2,389.79	238.98	0.15	2.77	0.60	1.00	1.46	22,789.89	2,045.66	2,045.66	8.00	255.71
					4.00	1.98	1.07	2,402.35	240.23	0.15	2.77	0.60	1.00	1.46	22,909.66	2,056.41	2,056.41	8.00	257.05
					4.00	1.99	1.07	2,414.75	241.47	0.15	2.77	0.60	1.00	1.46	23,027.93	2,067.03	2,067.03	8.00	258.38
					4.00	2.00	1.07	2,426.99	242.70	0.15	2.77	0.60	1.00	1.46	23,144.67	2,077.50	2,077.50	8.00	259.69
					4.00	2.01	1.07	2,439.08	243.91	0.15	2.77	0.60	1.00	1.46	23,259.97	2,087.85	2,087.85	8.00	260.98
					4.00	2.02	1.07	2,451.02	245.10	0.15	2.77	0.60	1.00	1.46	23,373.85	2,098.08	2,098.08	8.00	262.26
					4.00	2.03	1.07	2,462.82	246.28	0.15	2.77	0.60	1.00	1.46	23,486.36	2,108.18	2,108.18	8.00	263.52
													Σ (CA x AA)	87.48					

ANALISA DAN DESAIN STRUKTUR DARI TOWER MODIFIKASI ALTERNATIF 2

Perhitungan beban angin berdasarkan standar TIA / EIA - 222 - F

Kecepatan dasar angin		160.00	Kph
		44.44	m/s
Bentuk tower		Tower 3 kaki dengan sudut 60°	
Arah angin		45	
	DF	0.80	(dari tabel 2 TIA)
	CA	1.46	(dari tabel 3 TIA)
Tinggi		120.00	mm
Lebar bawah		12.00	mm
Aspek rasio		10.00	(perbandingan antara tinggi dan lebar bawah tower)

SECTION						FORCE												Jumlah Joint	F per joint
Segmen	Elevasi (m)	Midpoint (m)	Lebar (m)	AF (m2)	AG (m2)	Kz	GH	qz (Pa)	qz (kg/m2)	e	CF	AE (m2)	AA (m2)	CA x AA	F (kg)	F' (kg)	F pakai (kg)		W (kg)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	8.00	8.00	11.22	13.46	89.72	0.94	1.07	1,136.07	113.61	0.15	2.77	10.77	4.00	5.83	14,259.12	21,812.72	14,259.12	44.00	324.07
C	16.00	8.00	10.43	12.52	83.48	1.14	1.07	1,384.89	138.49	0.15	2.77	10.01	4.00	5.83	17,073.35	24,733.57	17,073.35	44.00	388.03
D	24.00	8.00	9.65	11.58	77.18	1.26	1.07	1,554.99	155.50	0.15	2.77	9.26	4.00	5.83	18,822.86	25,681.67	18,822.86	44.00	427.79
E	32.00	8.00	8.88	10.63	70.90	1.39	1.07	1,668.20	166.82	0.15	2.77	8.51	4.00	5.83	20,058.09	25,612.84	20,058.09	44.00	455.87
F	40.00	8.00	8.08	9.69	64.62	1.49	1.07	1,799.34	179.93	0.15	2.77	7.75	4.00	5.83	20,976.94	24,884.00	20,976.94	44.00	476.75
G	48.00	8.00	7.29	8.75	58.35	1.57	1.07	1,895.55	189.56	0.15	2.77	7.00	4.00	5.83	21,675.55	23,670.38	21,675.55	44.00	492.63
H	56.00	8.00	6.51	7.81	52.07	1.64	1.07	1,980.90	198.09	0.15	2.77	6.25	4.00	5.83	22,208.85	22,074.02	22,074.02	44.00	501.68
I	64.00	8.00	5.73	6.87	45.80	1.70	1.07	2,057.94	205.79	0.15	2.77	5.50	4.00	5.83	22,613.20	20,170.28	20,170.28	44.00	458.42
J	72.00	8.00	4.93	5.91	39.43	1.76	1.07	2,128.37	212.84	0.15	2.77	4.73	4.00	5.83	22,904.83	17,960.16	17,960.16	44.00	408.19
K	78.00	6.00	4.35	3.92	26.11	1.80	1.07	2,177.61	217.76	0.15	2.77	3.13	3.00	4.37	22,402.48	12,188.40	12,188.40	44.00	276.55
L	84.00	6.00	3.76	3.39	22.58	1.84	1.07	2,224.21	222.42	0.15	2.77	2.71	3.00	4.37	22,602.64	10,749.54	10,749.54	44.00	244.31
M	90.00	6.00	3.18	2.86	19.06	1.87	1.07	2,268.49	226.85	0.15	2.77	2.29	3.00	4.37	22,768.29	9,253.76	9,253.76	44.00	210.31
N	96.00	6.00	2.58	2.33	15.53	1.91	1.07	2,310.70	231.07	0.15	2.77	1.86	3.00	4.37	22,901.42	7,678.45	7,678.45	44.00	174.51
O	102.00	6.00	2.00	1.80	12.00	1.94	1.07	2,351.08	235.11	0.15	2.77	1.44	3.00	4.37	23,006.39	6,037.57	6,037.57	44.00	137.22
	104.00	2.00	2.00	0.80	4.00	1.95	1.07	2,364.16	236.42	0.15	2.77	0.48	1.00	1.46	22,461.34	2,023.72	2,023.72	8.00	252.96
	106.00	2.00	2.00	0.80	4.00	1.96	1.07	2,377.06	237.71	0.15	2.77	0.48	1.00	1.46	22,553.91	2,034.76	2,034.76	8.00	254.35
	108.00	2.00	2.00	0.80	4.00	1.97	1.07	2,389.70	238.98	0.15	2.77	0.48	1.00	1.46	22,704.85	2,045.66	2,045.66	8.00	255.71
	110.00	2.00	2.00	0.80	4.00	1.98	1.07	2,402.35	240.23	0.15	2.77	0.48	1.00	1.46	22,824.19	2,056.41	2,056.41	8.00	257.05
	112.00	2.00	2.00	0.80	4.00	1.99	1.07	2,414.75	241.47	0.15	2.77	0.48	1.00	1.46	22,942.00	2,067.03	2,067.03	8.00	258.38
	114.00	2.00	2.00	0.80	4.00	2.00	1.07	2,422.89	242.29	0.15	2.77	0.48	1.00	1.46	23,056.31	2,077.30	2,077.30	8.00	259.66
	116.00	2.00	2.00	0.80	4.00	2.01	1.07	2,429.08	243.21	0.15	2.77	0.48	1.00	1.46	23,173.17	2,087.85	2,087.85	8.00	260.98
	118.00	2.00	2.00	0.80	4.00	2.02	1.07	2,451.02	245.10	0.15	2.77	0.48	1.00	1.46	23,286.63	2,098.08	2,098.08	8.00	262.26
P	120.00	2.00	2.00	0.80	4.00	2.03	1.07	2,462.67	246.26	0.15	2.77	0.48	1.00	1.46	23,398.72	2,108.18	2,108.18	8.00	263.52
													Σ(CA x AA)	87.46					

ANALISA DAN DESAIN STRUKTUR DARI TOWER MODIFIKASI ALTERNATIF 3

Perhitungan beban angin berdasarkan standar TIA / EIA - 222 - F

Kecepatan dasar angin		160.00	Kph
		44.44	m/s
Bentuk tower		Tower 3 kaki dengan sudut 60°	
Arah angin		Normal	
	Df	1.00	(dari tabel 2 TIA)
	CA	1.46	(dari tabel 3 TIA)
Tinggi		120.00	mm
Lebar bawah		12.00	mm
Aspek ratio		10.00	(perbandingan antara tinggi dan lebar bawah tower)

SECTION						FORCE													
Segmen	Elevasi (m)	Midpoint (m)	Lebar (m)	Af (m2)	Ag (m2)	Kz	Gh	qz (Pa)	qz (kg/m2)	a	Cf	Ae (m2)	Aa (m2)	CA x AA	F (kg)	F' (kg)	F pakai (kg)	Jumlah Joint	F per joint W (kg)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	4.00	4.00	11.61	0.96	46.43	1.00	1.07	1,210.88	123.09	0.15	2.77	0.96	2.00	2.92	13,632.51	12,030.65	12,030.65	32.00	375.96
B	12.00	8.00	10.82	12.99	86.56	1.05	1.07	1,275.61	127.56	0.15	2.77	12.99	4.00	5.83	16,850.73	23,635.79	16,850.73	36.00	468.08
C	20.00	8.00	10.04	12.05	80.31	1.22	1.07	1,476.06	147.61	0.15	2.77	12.05	4.00	5.83	19,086.81	25,368.70	19,086.81	36.00	530.19
D	28.00	8.00	9.25	11.10	74.03	1.34	1.07	1,625.01	162.50	0.15	2.77	11.10	4.00	5.83	20,558.87	25,744.72	20,558.87	36.00	571.08
E	36.00	8.00	8.47	10.16	67.76	1.44	1.07	1,745.98	174.60	0.15	2.77	10.16	4.00	5.83	21,602.25	25,317.81	21,602.25	36.00	600.06
F	44.00	8.00	7.69	9.22	61.49	1.53	1.07	1,849.01	184.90	0.15	2.77	9.22	4.00	5.83	22,361.14	24,330.06	22,361.14	36.00	621.14
G	52.00	8.00	6.90	8.28	55.21	1.60	1.07	1,938.40	193.94	0.15	2.77	8.28	4.00	5.83	22,912.54	22,913.09	22,912.54	36.00	636.46
H	60.00	8.00	6.12	7.34	48.94	1.67	1.07	2,020.34	202.03	0.15	2.77	7.34	4.00	5.83	23,305.09	21,157.61	21,157.61	36.00	587.71
I	68.00	8.00	5.33	6.40	42.66	1.73	1.07	2,093.90	209.39	0.15	2.77	6.40	4.00	5.83	23,569.39	19,117.47	19,117.47	40.00	477.94
J	78.00	10.00	4.35	6.53	43.52	1.80	1.07	2,177.61	217.76	0.15	2.77	6.53	5.00	7.29	24,594.59	20,280.67	20,280.67	32.00	633.77
K	84.00	6.00	3.76	3.39	22.56	1.84	1.07	2,224.21	222.42	0.15	2.77	3.39	3.00	4.37	25,049.52	10,749.54	10,749.54	32.00	335.92
L	90.00	6.00	3.18	2.86	19.06	1.87	1.07	2,268.49	226.85	0.15	2.77	2.86	3.00	4.37	25,152.99	9,253.76	9,253.76	32.00	289.18
M	96.00	6.00	2.59	2.33	15.53	1.91	1.07	2,310.70	231.07	0.15	2.77	2.33	3.00	4.37	25,220.64	7,678.45	7,678.45	32.00	239.95
N	102.00	6.00	2.00	1.80	12.00	1.94	1.07	2,351.08	235.11	0.15	2.77	1.80	3.00	4.37	25,257.39	6,037.57	6,037.57	32.00	188.67
	104.00	2.00	2.00	0.60	4.00	1.95	1.07	2,364.16	236.42	0.15	2.77	0.60	1.00	1.46	22,545.47	2,023.72	2,023.72	8.00	252.96
	106.00	2.00	2.00	0.60	4.00	1.96	1.07	2,377.06	237.71	0.15	2.77	0.60	1.00	1.46	22,668.50	2,034.76	2,034.76	8.00	254.35
	108.00	2.00	2.00	0.60	4.00	1.97	1.07	2,389.79	238.98	0.15	2.77	0.60	1.00	1.46	22,789.89	2,045.66	2,045.66	8.00	255.71
	110.00	2.00	2.00	0.60	4.00	1.98	1.07	2,402.35	240.23	0.15	2.77	0.60	1.00	1.46	22,909.68	2,056.41	2,056.41	8.00	257.05
	112.00	2.00	2.00	0.60	4.00	1.99	1.07	2,414.75	241.47	0.15	2.77	0.60	1.00	1.46	23,027.93	2,067.03	2,067.03	8.00	258.38
	114.00	2.00	2.00	0.60	4.00	2.00	1.07	2,425.99	242.70	0.15	2.77	0.60	1.00	1.46	23,144.67	2,077.50	2,077.50	8.00	259.69
	116.00	2.00	2.00	0.60	4.00	2.01	1.07	2,439.06	243.91	0.15	2.77	0.60	1.00	1.46	23,259.97	2,087.85	2,087.85	8.00	260.98
	118.00	2.00	2.00	0.60	4.00	2.02	1.07	2,451.02	245.10	0.15	2.77	0.60	1.00	1.46	23,373.85	2,098.08	2,098.08	8.00	262.26
O	120.00	2.00	2.00	0.60	4.00	2.03	1.07	2,462.82	246.28	0.15	2.77	0.60	1.00	1.46	23,486.38	2,108.18	2,108.18	8.00	263.52
													Σ (CA x AA)	67.46					

ANALISA DAN DESAIN STRUKTUR DARI TOWER MODIFIKASI ALTERNATIF 3

Perhitungan beban angin berdasarkan standar TIA / EIA - 222 - F

Kecepatan dasar angin		160.00	Kph
		44.44	m/s
Bentuk tower		Tower 3 kaki dengan sudut 60°	
Arah angin		45	
	Df	0.80	(dari tabel 2 TIA)
	Ca	1.46	(dari tabel 3 TIA)
Tinggi		120.00	mm
Lebar bawah		12.00	mm
Aspek rasio		10.00	(perbandingan antara tinggi dan lebar bawah tower)

SECTION						FORCE												Jumlah Joint	F per joint W (kg)
Segmen	Elevasi (m)	Midpoint (m)	Lebar (m)	Af (m2)	Ag (m2)	Kz	Gh	qz (Pa)	qz (kg/m2)	ε	Cf	Ae (m2)	Aa (m2)	Ca x Aa	F (kg)	F' (kg)	F pakai (kg)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	4.00	4.00	11.61	6.96	46.43	1.00	1.07	1,210.66	121.09	0.15	2.77	5.57	2.00	2.92	13,332.37	12,030.65	12,030.65	36.00	334.18
B	12.00	8.00	10.82	12.99	86.58	1.05	1.07	1,275.61	127.56	0.15	2.77	10.39	4.00	5.83	15,868.13	23,635.79	15,868.13	36.00	440.78
C	20.00	8.00	10.04	12.05	80.31	1.22	1.07	1,476.06	147.61	0.15	2.77	9.64	4.00	5.83	18,032.17	25,366.70	18,032.17	36.00	500.89
D	28.00	8.00	9.25	11.10	74.03	1.34	1.07	1,625.01	162.50	0.15	2.77	8.88	4.00	5.83	19,488.60	25,744.72	19,488.60	36.00	541.35
E	36.00	8.00	8.47	10.16	67.76	1.44	1.07	1,745.98	174.60	0.15	2.77	8.13	4.00	5.83	20,549.73	25,317.81	20,549.73	36.00	570.83
F	44.00	8.00	7.69	9.22	61.49	1.53	1.07	1,849.01	184.90	0.15	2.77	7.38	4.00	5.83	21,349.68	24,330.06	21,349.68	36.00	593.05
G	52.00	8.00	6.90	8.28	55.21	1.60	1.07	1,939.40	193.94	0.15	2.77	6.62	4.00	5.83	21,959.98	22,913.09	21,959.98	36.00	610.00
H	60.00	8.00	6.12	7.34	48.94	1.67	1.07	2,020.34	202.03	0.15	2.77	5.87	4.00	5.83	22,425.51	21,157.61	21,157.61	36.00	587.71
I	68.00	8.00	5.33	6.40	42.68	1.73	1.07	2,093.90	209.39	0.15	2.77	5.12	4.00	5.83	22,774.63	19,117.47	19,117.47	40.00	477.94
J	78.00	10.00	4.35	8.53	43.52	1.80	1.07	2,177.81	217.76	0.15	2.77	5.22	5.00	7.29	23,751.47	20,280.67	20,280.67	32.00	633.77
K	84.00	6.00	3.78	3.39	22.58	1.84	1.07	2,224.21	222.42	0.15	2.77	2.71	3.00	4.37	22,602.64	10,749.54	10,749.54	32.00	335.92
L	90.00	6.00	3.18	2.86	19.08	1.87	1.07	2,268.49	226.85	0.15	2.77	2.29	3.00	4.37	22,788.29	9,253.76	9,253.76	32.00	289.18
M	96.00	6.00	2.59	2.33	15.53	1.91	1.07	2,310.70	231.07	0.15	2.77	1.86	3.00	4.37	22,901.42	7,678.45	7,678.45	32.00	239.95
N	102.00	6.00	2.00	1.80	12.00	1.94	1.07	2,351.08	235.11	0.15	2.77	1.44	3.00	4.37	23,006.39	6,037.57	6,037.57	32.00	188.67
	104.00	2.00	2.00	0.60	4.00	1.95	1.07	2,364.16	236.42	0.15	2.77	0.48	1.00	1.46	22,461.34	2,023.72	2,023.72	8.00	252.96
	106.00	2.00	2.00	0.60	4.00	1.96	1.07	2,377.06	237.71	0.15	2.77	0.48	1.00	1.46	22,583.91	2,034.78	2,034.78	8.00	254.35
	108.00	2.00	2.00	0.60	4.00	1.97	1.07	2,389.79	238.98	0.15	2.77	0.48	1.00	1.46	22,704.85	2,045.66	2,045.66	8.00	255.71
	110.00	2.00	2.00	0.60	4.00	1.98	1.07	2,402.35	240.23	0.15	2.77	0.48	1.00	1.46	22,824.18	2,056.41	2,056.41	8.00	257.05
	112.00	2.00	2.00	0.60	4.00	1.99	1.07	2,414.75	241.47	0.15	2.77	0.48	1.00	1.46	22,942.00	2,067.03	2,067.03	8.00	258.38
	114.00	2.00	2.00	0.60	4.00	2.00	1.07	2,426.99	242.70	0.15	2.77	0.48	1.00	1.46	23,058.31	2,077.50	2,077.50	8.00	259.69
	116.00	2.00	2.00	0.60	4.00	2.01	1.07	2,439.06	243.91	0.15	2.77	0.48	1.00	1.46	23,173.17	2,087.85	2,087.85	8.00	260.98
	118.00	2.00	2.00	0.60	4.00	2.03	1.07	2,451.02	245.10	0.15	2.77	0.48	1.00	1.46	23,286.63	2,098.08	2,098.08	8.00	262.26
O	120.00	2.00	2.00	0.60	4.00	2.03	1.07	2,462.82	246.28	0.15	2.77	0.48	1.00	1.46	23,398.72	2,108.18	2,108.18	8.00	263.52
													Σ (CA x AA)	87.46					

4.4. Perhitungan Beban Gempa

Perhitungan beban gempa pada struktur tower ini, dilakukan dengan analisa gempa dinamis. Sesuai dengan Pedoman Perencanaan Ketahanan Gempa Untuk Rumah dan Gedung (PPKGURG) 1987 pasal 2.5, analisa dinamis harus dilakukan untuk struktur yang tingginya lebih dari 40 meter. Struktur tower ini mempunyai ketinggian 120 meter, sehingga harus digunakan analisa beban gempa dinamis. Dalam hal ini analisa beban gempa dinamis menggunakan analisa respon spektrum. Analisa respon spektrum adalah suatu cara analisa dinamik struktur, dimana pada suatu model matematik dari struktur diberlakukan suatu spektrum respon gempa rencana, dan berdasarkan itu ditentukan respon struktur terhadap gempa rencana tersebut melalui superposisi dari respon masing-masing ragamnya.

Analisa respon spektrum tersebut menggunakan bantuan program SAP2000 (Structural Analysis Program 2000). Sehubungan dengan analisa dinamis tersebut, prosedur perhitungan massa dari struktur tower 120 meter dengan membagi beberapa segmen. Masing-masing dari segmen tersebut dihitung massanya dan ditentukan pusat massa tersebut pada tengah-tengah diapragma yang ditentukan. Sebelumnya, diapragma masing-masing segmen tersebut harus diconstrain, sehingga semua joint yang diconstrain tersebut dapat bergerak bersama sebagai diapragma kaku. Perilaku diapragma tersebut diwakili oleh sebuah master of joint yang terletak pada pusat massa dari masing-masing segmen tersebut.

Perhitungan massa tiap-tiap segmen dapat ditabelkan sebagai berikut :

Tabel Perhitungan massa

Desain tower modifikasi 1

Segmen	Elemen Batang	Jenis Profil	Berat (kg/m)	Panjang (mm)	Berat (kg)	Berat Total (kg)	Massa (kg det2/m)
A	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.26	4,607.62	470.17
	Diagonal Bracing	L 100.100.10	15.12	126,910.62	1,918.89		
	Horisontal Bracing	L 100.100.10	15.12	69,647.04	1,053.06		
	Redundants	L 40.40.4	2.42	77,127.06	186.39		
B	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.28	4,439.32	452.99
	Diagonal Bracing	L 100.100.10	15.12	121,167.72	1,832.06		
	Horisontal Bracing	L 100.100.10	15.12	64,941.18	981.91		
	Redundants	L 40.40.4	2.42	72,859.80	176.06		
C	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.26	4,273.35	436.06
	Diagonal Bracing	L 100.100.10	15.12	115,570.98	1,747.43		
	Horisontal Bracing	L 100.100.10	15.12	60,235.26	910.76		
	Redundants	L 40.40.4	2.42	68,641.26	165.88		
D	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.28	3,206.49	327.09
	Diagonal Bracing	L 80.80.8	9.66	110,142.72	1,063.98		
	Horisontal Bracing	L 80.80.8	9.66	55,529.46	536.41		
	Redundants	L 40.40.4	2.42	64,479.00	155.82		
E	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	2,449.12	249.91
	Diagonal Bracing	L 80.80.8	9.66	104,908.86	1,013.42		
	Horisontal Bracing	L 80.80.8	9.66	50,627.46	489.06		
	Redundants	L 40.40.4	2.42	60,381.42	145.92		
F	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	2,353.15	240.12
	Diagonal Bracing	L 80.80.8	9.66	99,900.00	965.03		
	Horisontal Bracing	L 80.80.8	9.66	46,117.68	445.50		
	Redundants	L 40.40.4	2.42	58,715.46	141.90		
G	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	1,671.75	170.59
	Diagonal Bracing	L 60.60.6	5.42	95,919.96	519.89		
	Horisontal Bracing	L 60.60.6	5.42	41,411.76	224.45		
	Redundants	L 40.40.4	2.42	52,423.20	126.69		
H	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	1,708.18	174.30
	Diagonal Bracing	L 60.60.6	5.42	90,705.60	491.62		
	Horisontal Bracing	L 60.60.6	5.42	55,058.82	298.42		
	Redundants	L 40.40.4	2.42	48,588.12	117.42		
I	Main member	SC 168,3 x 7,11	28.26	24,038.40	679.33	1,430.61	145.98
	Diagonal Bracing	L 60.60.6	5.42	86,607.18	469.41		
	Horisontal Bracing	L 60.60.6	5.42	31,999.98	173.44		
	Redundants	L 40.40.4	2.42	44,869.02	108.43		
J	Main member	SC 168,3 x 7,11	28.26	24,038.40	679.33	1,376.39	140.45
	Diagonal Bracing	L 60.60.6	5.42	82,908.18	449.36		
	Horisontal Bracing	L 60.60.6	5.42	27,294.18	147.93		
	Redundants	L 40.40.4	2.42	41,283.18	99.77		
K	Main member	SC 168,3 x 7,11	28.26	12,019.20	339.66	512.47	52.29
	Diagonal Bracing	L 50.50.5	3.78	33,792.36	127.65		
	Horisontal Bracing	L 50.50.5	3.78	11,882.34	44.95		
	Redundants	-	-	-	-		
L	Main member	SC 168,3 x 7,11	28.26	12,019.20	339.66	540.20	55.12
	Diagonal Bracing	L 50.50.5	3.78	32,182.26	121.76		
	Horisontal Bracing	L 50.50.5	3.78	20,823.51	78.78		
	Redundants	-	-	-	-		
M	Main member	SC 168,3 x 7,11	28.26	12,019.20	339.66	525.57	53.63
	Diagonal Bracing	L 50.50.5	3.78	30,668.40	116.03		
	Horisontal Bracing	L 50.50.5	3.78	18,470.64	69.88		
	Redundants	-	-	-	-		
N	Main member	SC 168,3 x 7,11	28.26	12,019.20	339.66	511.36	52.18
	Diagonal Bracing	L 50.50.5	3.78	29,265.66	110.72		
	Horisontal Bracing	L 50.50.5	3.78	16,117.68	60.98		
	Redundants	-	-	-	-		
O	Main member	SC 168,3 x 7,11	28.26	12,019.20	339.66	440.57	44.96
	Diagonal Bracing	L 40.40.4	2.42	27,990.84	67.64		
	Horisontal Bracing	L 40.40.4	2.42	13,764.72	33.26		
	Redundants	-	-	-	-		
P	Main member	SC 114,3 x 6,02	16.07	6,009.60	96.57	153.11	15.62
	Diagonal Bracing	L 40.40.4	2.42	17,384.78	42.04		
	Horisontal Bracing	L 40.40.4	2.42	6,000.00	14.50		
	Redundants	-	-	-	-		
Q	Main member	SC 114,3 x 6,02	16.07	54,000.00	867.78	1,476.78	150.69
	Diagonal Bracing	L 40.40.4	2.42	180,000.00	435.00		
	Horisontal Bracing	L 40.40.4	2.42	72,000.00	174.00		

Tabel Pembungan massa

Desain tower modifikasi 2

Segmen	Elemen Batang	Jenis Profil	Berat (kg/m)	Panjang (mm)	Berat (kg)	Berat Total (kg)	Massa (kg.det2/m)
A	Main member	-	-	-	-	-	-
	Diagonal Bracing	-	-	-	-		
	Horisontal Bracing	-	-	-	-		
	Redundants	-	-	-	-		
B	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.28	4,548.29	464.11
	Diagonal Bracing	L 100.100.10	15.12	124,447.98	1,881.65		
	Horisontal Bracing	L 100.100.10	15.12	67,882.32	1,026.38		
	Redundants	L 40.40.4	2.42	79,025.58	190.98		
C	Main member	SC 273.0 x 9.27	60.29	24,038.40	1,449.28	4,413.14	450.32
	Diagonal Bracing	L 100.100.10	15.12	120,838.08	1,827.07		
	Horisontal Bracing	L 100.100.10	15.12	63,176.40	955.23		
	Redundants	L 40.40.4	2.42	75,129.60	181.56		
D	Main member	SC 273.0 x 9.27	60.29	24,038.40	1,449.28	4,284.51	437.19
	Diagonal Bracing	L 100.100.10	15.12	117,843.48	1,781.79		
	Horisontal Bracing	L 100.100.10	15.12	58,470.60	884.06		
	Redundants	L 40.40.4	2.42	70,081.95	169.36		
E	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.28	4,188.90	427.44
	Diagonal Bracing	L 100.100.10	15.12	117,026.20	1,769.47		
	Horisontal Bracing	L 100.100.10	15.12	53,764.74	812.92		
	Redundants	L 40.40.4	2.42	65,062.66	157.23		
F	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	2,537.15	258.89
	Diagonal Bracing	L 80.80.8	9.66	112,233.18	1,084.17		
	Horisontal Bracing	L 80.80.8	9.66	52,491.84	507.07		
	Redundants	L 40.40.4	2.42	60,076.35	145.18		
G	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	2,220.14	226.55
	Diagonal Bracing	L 80.80.8	9.66	97,037.52	937.38		
	Horisontal Bracing	L 80.80.8	9.66	44,352.96	428.45		
	Redundants	L 40.40.4	2.42	22,176.48	53.59		
H	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	2,102.73	219.67
	Diagonal Bracing	L 80.80.8	9.66	94,651.14	914.33		
	Horisontal Bracing	L 80.80.8	9.66	39,647.04	382.99		
	Redundants	L 40.40.4	2.42	22,630.11	54.69		
I	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	2,073.57	211.59
	Diagonal Bracing	L 80.80.8	9.66	92,453.34	893.10		
	Horisontal Bracing	L 80.80.8	9.66	34,941.18	337.53		
	Redundants	L 40.40.4	2.42	17,470.59	42.22		
J	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	1,491.45	152.19
	Diagonal Bracing	L 60.60.6	5.42	90,465.00	490.32		
	Horisontal Bracing	L 60.60.6	5.42	30,235.26	163.88		
	Redundants	L 40.40.4	2.42	15,117.63	36.53		
K	Main member	SC 168,3 x 7,11	28.26	18,028.80	509.49	1,040.43	106.17
	Diagonal Bracing	L 60.60.6	5.42	66,016.96	357.82		
	Horisontal Bracing	L 60.60.6	5.42	26,117.64	141.56		
	Redundants	L 40.40.4	2.42	13,058.82	31.56		
L	Main member	SC 168,3 x 7,11	28.26	18,028.80	509.49	1,009.31	102.99
	Diagonal Bracing	L 60.60.6	5.42	64,593.90	350.10		
	Horisontal Bracing	L 60.60.6	5.42	22,586.20	122.43		
	Redundants	L 40.40.4	2.42	11,294.10	27.29		
M	Main member	SC 168,3 x 7,11	28.26	18,028.80	509.49	844.27	86.15
	Diagonal Bracing	L 50.50.5	3.78	63,341.70	239.64		
	Horisontal Bracing	L 50.50.5	3.78	19,058.82	72.11		
	Redundants	L 40.40.4	2.42	9,529.41	23.03		
N	Main member	SC 168,3 x 7,11	28.26	18,028.80	509.49	822.62	83.94
	Diagonal Bracing	L 50.50.5	3.78	62,275.92	235.61		
	Horisontal Bracing	L 50.50.5	3.78	15,529.44	58.75		
	Redundants	L 40.40.4	2.42	7,764.72	18.76		
O	Main member	SC 168,3 x 7,11	28.26	18,028.80	509.49	801.73	81.81
	Diagonal Bracing	L 50.50.5	3.78	61,409.76	232.33		
	Horisontal Bracing	L 50.50.5	3.78	12,000.00	45.40		
	Redundants	L 40.40.4	2.42	6,000.00	14.50		
P	Main member	SC 114,3 x 6,02	16.07	54,000.00	867.78	1,302.78	132.94
	Diagonal Bracing	L 40.40.4	2.42	180,000.00	435.00		
	Horisontal Bracing	-	-	-	-		
	Redundants	-	-	-	-		

Tabel Perhitungan massa

Desain tower modifikasi 3

Segmen	Elemen Batang	Jenis Profil	Berat (kg/m)	Panjang (mm)	Berat (kg)	Berat Total (kg)	Massa (kg det2/m)
A	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.28	4,607.62	470.17
	Diagonal Bracing	L 100.100.10	15.12	126,910.62	1,918.89		
	Horisontal Bracing	L 100.100.10	15.12	69,647.04	1,053.06		
	Redundants	L 40.40.4	2.42	77,127.06	186.39		
B	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.28	4,439.32	452.99
	Diagonal Bracing	L 100.100.10	15.12	121,167.72	1,832.06		
	Horisontal Bracing	L 100.100.10	15.12	64,941.18	981.91		
	Redundants	L 40.40.4	2.42	72,859.80	176.08		
C	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.28	4,273.35	436.06
	Diagonal Bracing	L 100.100.10	15.12	115,570.98	1,747.43		
	Horisontal Bracing	L 100.100.10	15.12	60,235.26	910.76		
	Redundants	L 40.40.4	2.42	68,641.26	165.88		
D	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.28	3,205.49	327.09
	Diagonal Bracing	L 80.80.8	9.66	110,142.72	1,063.98		
	Horisontal Bracing	L 80.80.8	9.66	55,529.46	536.41		
	Redundants	L 40.40.4	2.42	64,479.00	155.82		
E	Main member	SC 273,0 x 9,27	60.29	24,038.40	1,449.28	3,097.68	316.09
	Diagonal Bracing	L 80.80.8	9.66	104,908.86	1,013.42		
	Horisontal Bracing	L 80.80.8	9.66	50,627.46	489.06		
	Redundants	L 40.40.4	2.42	60,381.42	145.92		
F	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	2,353.15	240.12
	Diagonal Bracing	L 80.80.8	9.66	99,900.00	965.03		
	Horisontal Bracing	L 80.80.8	9.66	46,117.68	445.50		
	Redundants	L 40.40.4	2.42	58,715.46	141.90		
G	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	1,671.75	170.59
	Diagonal Bracing	L 60.60.6	5.42	95,919.96	519.89		
	Horisontal Bracing	L 60.60.6	5.42	41,411.76	224.45		
	Redundants	L 40.40.4	2.42	52,423.20	126.69		
H	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	1,708.18	174.30
	Diagonal Bracing	L 60.60.6	5.42	90,705.60	491.62		
	Horisontal Bracing	L 60.60.6	5.42	55,058.82	298.42		
	Redundants	L 40.40.4	2.42	48,568.12	117.42		
I	Main member	SC 219,1 x 6,35	33.31	24,038.40	800.72	1,552.00	158.37
	Diagonal Bracing	L 60.60.6	5.42	86,607.18	469.41		
	Horisontal Bracing	L 60.60.6	5.42	31,999.98	173.44		
	Redundants	L 40.40.4	2.42	44,869.02	108.43		
J	Main member	SC 168,3 x 7,11	28.26	18,026.80	509.49	1,040.43	106.17
	Diagonal Bracing	L 60.60.6	5.42	66,018.96	357.82		
	Horisontal Bracing	L 60.60.6	5.42	26,117.64	141.56		
	Redundants	L 40.40.4	2.42	13,058.82	31.56		
K	Main member	SC 168,3 x 7,11	28.26	18,026.80	509.49	1,009.31	102.99
	Diagonal Bracing	L 60.60.6	5.42	64,593.90	350.10		
	Horisontal Bracing	L 60.60.6	5.42	22,586.20	122.43		
	Redundants	L 40.40.4	2.42	11,294.10	27.29		
L	Main member	SC 168,3 x 7,11	28.26	18,026.80	509.49	644.27	86.15
	Diagonal Bracing	L 50.50.5	3.78	63,341.70	239.64		
	Horisontal Bracing	L 50.50.5	3.78	19,056.82	72.11		
	Redundants	L 40.40.4	2.42	9,529.41	23.03		
M	Main member	SC 168,3 x 7,11	28.26	18,026.80	509.49	822.62	83.94
	Diagonal Bracing	L 50.50.5	3.78	62,275.92	335.61		
	Horisontal Bracing	L 50.50.5	3.78	15,529.44	58.75		
	Redundants	L 40.40.4	2.42	7,764.72	18.76		
N	Main member	SC 168,3 x 7,11	28.26	18,026.80	509.49	801.73	81.81
	Diagonal Bracing	L 50.50.5	3.78	61,409.76	232.33		
	Horisontal Bracing	L 50.50.5	3.78	12,000.00	45.40		
	Redundants	L 40.40.4	2.42	6,000.00	14.50		
O	Main member	SC 114,3 x 6,02	16.07	54,000.00	867.78	1,302.78	132.94
	Diagonal Bracing	L 40.40.4	2.42	180,000.00	435.00		
	Horisontal Bracing	-	-	-	-		
	Redundants	-	-	-	-		

Setelah massa tiap-tiap segmen dan diapragma ditentukan, selanjutnya perlu ditentukan beban dinamik pada model struktur tower. Beban dinamik yang dikerjakan pada model struktur ini ialah respon spektrum yang diambil dari Uniform Building Code (UBC 1997), dimana :

Cv = 0,54 (tabel 16-R UBC 1997)

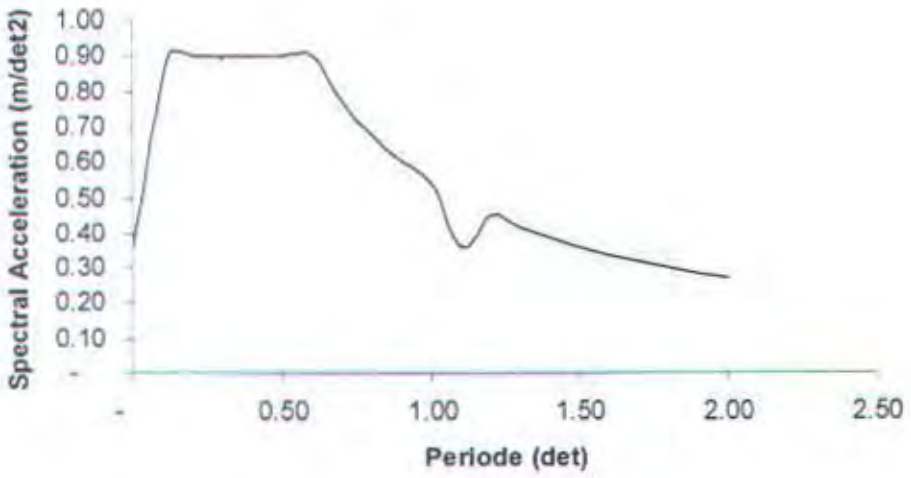
Ca = 0,36 (tabel 16-Q UBC 1997)

$$Ts = \frac{Cv}{2{,}5\,Ca} = 0{,}6 \text{ detik}$$

To = 0,2 Ts = 0,12 detik

Berdasarkan perhitungan tersebut dibuat tabel untuk kemudian diplot ke dalam grafik seperti dibawah ini :

Periode (det)	Spectral Acceleration (m/det^2)
-	0.36
0.12	0.90
0.20	0.90
0.30	0.90
0.40	0.90
0.50	0.90
0.60	0.90
0.70	0.77
0.80	0.68
0.90	0.60
1.00	0.54
1.10	0.36
1.20	0.45
1.30	0.42
1.40	0.39
1.50	0.36
1.60	0.34
1.70	0.32
1.80	0.30
1.90	0.28
2.00	0.27



Grafik Analisa Respon Spektrum

4.4. Analisa Struktur Tower

Pada dasarnya, tujuan utama analisa struktur adalah untuk mendapatkan besar dan arah gaya-gaya dalam yang diterima setiap elemn struktur. Pada perencanaan struktur tower ini analisa struktur dilakukan dengan bantuan program SAP2000 (Structural Analysis Program 2000), dengan model struktur frame 3 dimensi. Untuk menyalurkan gaya lateral supaya diterima oleh elemen struktur penahan gaya lateral, maka struktur dibagi menjadi segmen-segmen dimodelkan sebagai diapragma kaku. Jadi seluruh joint dalam satu bidang dengan pusat massa pada segmen masing-masing diconstrain, sehingga joint-joint tersebut dapat bergerak bersama-sama. Dengan penggunaan diapragma ini, massa tiap segmen dapat diberikan pada salah satu joint saja.

4.5. Kombinasi Pembebanan

Kombinasi pembebanan diambil dari Peraturan Tata Cara Perencanaan Struktur Baja Untuk Bangunan Gedung tahun 2000 adalah sebagai berikut :

Kombinasi 1 = 1,4D

Kombinasi 2 = 1,2D + 1,6L

Kombinasi 3 = 1,2D + 0,5L + 1,3(W_1 + W_3)

Kombinasi 4 = 1,2D + 0,5L + 1,3(W_2 + W_3)

Kombinasi 5 = 1,2D + 0,5L + 1,0E

Kombinasi 6 = 0,9D - 1,3(W_1 + W_3)

Kombinasi 7 = $0,9D - 1,3(W_2 + W_3)$

Kombinasi 8 = $0,9D - 1,0E$

Dimana :

D = beban mati

L = beban hidup

W_1 = beban angin arah tegak lurus terhadap rangka

W_2 = beban angin arah 45° terhadap rangka

W_3 = beban angin terhadap antena

E = beban gempa

BAB V

PERHITUNGAN STRUKTUR TOWER

BAB V
PERHITUNGAN STRUKTUR TOWER

5.1. Perhitungan Struktur

Perhitungan struktur tower ini menggunakan konsep LRFD dari Tata Cara Perencanaan Struktur Baja Untuk Gedung tahun 2000. Dari hasil analisa struktur dengan SAP2000 ternyata dihasilkan gaya aksial pada frame-frame tower tersebut. Frame-frame tersebut harus mampu menahan gaya aksila yang bekerja, sehingga harus dilakukan kontrol perhitungan dengan menggunakan konsep LRFD.

Sebagai contoh perhitungan struktur tekan tersebut diambil batang/frame pada main member section A modifikasi alternatif I sebagai berikut :

Lx = Ly = L = 200,32 cm

Profil SC 273,0 x 9,27

Mutu baja BJ 37

Fy = 2400 kg/cm2 = 240 MPa

Fu = 3700 kg/cm2 = 370 MPa

A = 76,77 cm2

ix = iy = 186,60 cm

iξ = 186,60 cm

iη = 186,60 cm

D = 273,00 mm

t = 9,27 mm

5.1.1. Kontrol Penampang (kelangsingan elemen penampang)

Untuk penampang siku : $\frac{b}{t} \leq \lambda r$ dimana $\lambda r = \frac{200}{\sqrt{fy}}$

Untuk penampang bulat : $\frac{D}{t} \leq \lambda r$ dimana $\lambda r = \frac{22000}{\sqrt{fy}}$

(LRFD tabel 7.5-1 halaman 30)

5.1.2. Kontrol Komponen Struktur

Lk = Kc x L ; untuk struktur segitiga, Kc = 1

$$\lambda = \frac{Lk}{i\,min} = \frac{2003,20}{186,60} = 1,07$$

$$\lambda c = \frac{\lambda}{\pi}\sqrt{\frac{fy}{E}} = \frac{1,07}{\pi}\sqrt{\frac{2400}{2100000}} = 0,01 \qquad 0,25 < \lambda_c < 1,2$$

$$w = \frac{1,43}{1,6 - 0,67\lambda_c} = \frac{1,43}{1,6 - (0,67 \times 0,01)} = 1,00$$

$$\phi Pn = Ag.\frac{fy}{w} = 76,77 \times \frac{2400}{1,00} = 184238,40 \text{ kg}$$

Untuk perhitungan selanjutnya ditabelkan pada lampiran.

5.1.3. Kontrol Defleksi

Berdasarkan EIA – 222F "Structural Standards for Steel Antenna Towers And Antenna Supporting Structures", struktur tower harus dilakukan kontrol terhadap defleksi akibat beban yang terjadi pada tower.

$$\text{Defleksi} \leq \frac{H}{100}$$

Dimana : H = ketinggian tower

= 12000 cm

$$\text{Defleksi max} = \frac{12000}{100} = 120 \text{ cm}$$

Contoh perhitungan :

Pada tower alternatif 1 section A :

$$\text{Defleksi ijin} = \frac{12000}{100} = 120 \text{ cm}$$

Defleksi aktual : ΔY = 21,067 mm = 2,107 cm < 12 cm ..... OK !

ΔX = 0,566 mm = 0,057 cm < 12 cm ..... OK !

Untuk perhitungan kontrol defleksi masing-masing desain dapat ditabelkan sebagai berikut :

Kontrol defleksi desain alternatif 1

Segmen	No. Joint	Defleksi		Defleksi max	D max > [X] ... OK !
		X (mm)	Y (mm)	(cm)	D max < [X] ... NOK !
A	250	0.000	0.000	12	OK !
	44	-4.274	0.048	12	OK !
	249	0.863	-0.146	12	OK !
	50	6.897	-0.270	12	OK !
	248	21.067	-0.566	12	OK !
B	66	4.005	-2.983	12	OK !
	242	1.029	-1.385	12	OK !
	62	-2.343	1.787	12	OK !
	241	5.210	-2.312	12	OK !
C	68	-1.798	2.918	12	OK !
	234	0.602	3.569	12	OK !
	74	4.112	-4.242	12	OK !
	233	17.259	-5.066	12	OK !
D	80	5.962	-5.912	12	OK !
	232	1.098	6.725	12	OK !
	86	-1.895	7.507	12	OK !
	227	4.268	-8.420	12	OK !
E	92	-7.538	9.574	12	OK !
	226	0.634	10.830	12	OK !
	98	19.832	12.084	12	OK !
	225	39.719	-13.674	12	OK !
F	104	12.185	15.079	12	OK !
	224	0.122	16.525	12	OK !
	110	-3.370	19.150	12	OK !
	212	-2.543	21.822	12	OK !
G	115	-11.428	23.467	12	OK !
	211	0.564	25.009	12	OK !
	121	15.309	26.618	12	OK !
	210	46.658	-28.599	12	OK !
H	127	24.467	31.203	12	OK !
	131	4.641	33.831	12	OK !
	136	-23.233	36.221	12	OK !
	203	-37.604	38.739	12	OK !
I	142	-32.305	41.122	12	OK !
	202	-0.851	43.531	12	OK !
	148	42.828	45.934	12	OK !
	201	62.245	48.577	12	OK !
J	154	19.739	51.525	12	OK !
	159	-2.104	54.850	12	OK !
	164	-25.837	58.158	12	OK !
	190	28.030	-7.067	12	OK !
K	189	-2.375	-1.340	12	OK !
	188	-1.595	-0.901	12	OK !
L	187	-1.353	-0.761	12	OK !
	186	-1.365	-1.021	12	OK !
M	174	-2.273	-1.290	12	OK !
	173	-2.553	-1.491	12	OK !
N	172	-1.950	-1.695	12	OK !
	171	-0.510	-1.903	12	OK !
O	170	-0.915	-2.116	12	OK !
	169	-1.206	-2.334	12	OK !
P	1	-0.664	-1.078	12	OK !
Q	38	-9.010	-13.787	12	OK !
	35	-10.150	-14.661	12	OK !
	32	-11.265	-15.548	12	OK !
	29	-12.363	-16.447	12	OK !
	26	-13.498	-17.354	12	OK !
	23	-14.613	-18.269	12	OK !
	20	-15.725	-19.188	12	OK !
	17	-16.836	-20.112	12	OK !
	14	-17.946	-21.037	12	OK !
	11	-19.054	-21.964	12	OK !
	8	-20.161	-22.891	12	OK !
	4	-21.265	-23.817	12	OK !

Kontrol defleksi desain alternatif 2

Segmen	No. Joint	Defleksi		Defleksi max	D max > [X] ... OK !
		X (mm)	Y (mm)	(cm)	D max < [X] ... NOK !
A	1	-5.592	113.404	12	OK !
	44	-17.135	41.666	12	OK !
	249	-11.290	68.970	12	OK !
	50	-17.912	15.678	12	OK !
	248	-11.052	68.649	12	OK !
B	68	0.011	-1.524	12	OK !
	242	-13.144	65.640	12	OK !
	62	-19.488	117.437	12	OK !
	241	-3.993	-65.462	12	OK !
C	58	-19.046	1.879	12	OK !
	234	-3.736	-59.781	12	OK !
	74	-6.001	2.322	12	OK !
	233	39.239	60.179	12	OK !
D	80	-17.817	3.323	12	OK !
	232	4.187	59.938	12	OK !
	86	-16.604	4.009	12	OK !
	227	24.905	57.311	12	OK !
E	92	-7.311	4.635	12	OK !
	226	7.195	57.191	12	OK !
	98	-17.539	5.996	12	OK !
	225	-13.906	52.561	12	OK !
F	104	-16.397	6.854	12	OK !
	224	-13.642	52.046	12	OK !
	110	-11.236	7.649	12	OK !
	212	-13.519	45.008	12	OK !
G	115	-1.723	-8.659	12	OK !
	211	-3.220	-44.807	12	OK !
	121	-1.585	-10.064	12	OK !
	210	-3.085	-44.809	12	OK !
H	127	-1.456	-11.463	12	OK !
	131	46.109	14.053	12	OK !
	136	26.373	10.341	12	OK !
	203	43.794	43.017	12	OK !
I	142	15.483	16.636	12	OK !
	202	11.199	42.796	12	OK !
	148	22.448	19.466	12	OK !
	201	-13.686	39.378	12	OK !
J	154	24.037	21.149	12	OK !
	159	-28.495	21.872	12	OK !
	164	-17.571	22.721	12	OK !
	190	13.589	36.394	12	OK !
K	169	-15.553	34.196	12	OK !
	188	-15.357	33.948	12	OK !
L	167	-2.577	-33.799	12	OK !
	168	-2.096	-25.679	12	OK !
M	174	-2.206	-27.574	12	OK !
	173	64.234	28.316	12	OK !
N	172	20.142	28.017	12	OK !
	171	-23.271	26.351	12	OK !
O	170	-23.078	26.085	12	OK !
	189	-2.150	-25.678	12	OK !
P	11	-5.298	105.125	12	OK !
Q	38	-4.615	81.388	12	OK !
	35	-4.103	83.815	12	OK !
	32	-4.431	86.328	12	OK !
	29	-4.543	88.902	12	OK !
	26	-4.688	91.529	12	OK !
	23	-4.821	94.196	12	OK !
	20	-4.949	96.900	12	OK !
	17	-5.071	99.626	12	OK !
	14	-5.188	102.371	12	OK !
	11	-5.298	105.125	12	OK !
	8	-5.403	107.886	12	OK !
	4	-5.482	110.646	12	OK !

Kontrol defleksi desain alternatif 3

Segmen	No. Joint	Defleksi		Defleksi max	D max > [X] ... OK !
		X (mm)	Y (mm)	(cm)	D max < [X] ... NOK !
A	362	-6.343	6.350	12	OK !
	200	-3.923	4.991	12	OK !
	251	-75.320	-11.648	12	OK !
	206	6.087	-25.773	12	OK !
	350	19.292	-53.526	12	OK !
B	212	5.911	-91.763	12	OK !
	344	0.928	-1.317	12	OK !
	218	-1.861	1.702	12	OK !
	348	0.409	1.332	12	OK !
C	224	-1.149	2.770	12	OK !
	366	0.523	-3.367	12	OK !
	230	3.077	-3.982	12	OK !
	335	14.484	-4.740	12	OK !
D	236	4.648	-5.543	12	OK !
	334	1.080	-6.320	12	OK !
	242	-0.476	7.071	12	OK !
	329	6.025	-7.964	12	OK !
E	248	-0.105	9.034	12	OK !
	328	-0.305	10.153	12	OK !
	254	3.693	-11.305	12	OK !
	327	11.640	-12.613	12	OK !
F	260	2.496	-13.683	12	OK !
	326	0.902	14.782	12	OK !
	266	21.261	-17.165	12	OK !
	314	30.464	-19.619	12	OK !
G	271	5.117	-20.954	12	OK !
	313	-2.348	-22.175	12	OK !
	277	-8.764	-23.464	12	OK !
	312	1.706	-25.091	12	OK !
H	283	-6.605	-27.335	12	OK !
	287	-0.699	-29.583	12	OK !
	292	5.932	-31.603	12	OK !
	387	-0.904	-3.374	12	OK !
I	298	15.391	-35.726	12	OK !
	306	-2.837	-37.766	12	OK !
	304	-12.224	-39.786	12	OK !
	119	9.083	-42.016	12	OK !
J	122	-23.211	44.614	12	OK !
	105	-16.634	47.207	12	OK !
	95	-3.562	-49.735	12	OK !
K	98	-18.583	52.383	12	OK !
	86	-14.215	54.985	12	OK !
	71	-3.889	-57.581	12	OK !
L	74	-15.052	60.477	12	OK !
	57	-12.188	63.376	12	OK !
	65	70.802	63.076	12	OK !
M	50	-12.939	69.341	12	OK !
	39	-10.844	72.456	12	OK !
	16	-4.177	-75.510	12	OK !
N	26	-11.465	78.868	12	OK !
	22	-11.151	82.222	12	OK !
O	3	-4.229	-85.447	12	OK !
P	126	-4.456	-87.915	12	OK !
	132	-5.616	-90.457	12	OK !
	138	-6.553	-93.051	12	OK !
	144	-7.524	-95.690	12	OK !
	150	-8.484	-98.365	12	OK !
	156	-9.439	-101.067	12	OK !
	162	-10.388	-103.791	12	OK !
	168	-11.331	-106.530	12	OK !
	175	-12.267	-109.278	12	OK !
	178	-12.760	110.707	12	OK !
	186	-14.124	-114.784	12	OK !

5.1.1. Kontrol Sway / Goyangan

Selain kontrol terhadap defleksi, struktur tower perlu juga dikontrol terhadap sway/goyangan. Sway adalah sudut yang dibentuk antara defleksi tiap segmen dengan tinggi segmen tresebut, dalam hal ini sway ijin struktur tower adalah 0,5°. Perumusan sway adalah sebagai berikut :

$$\text{Sway} = \frac{\Delta D}{\Delta H} \text{ rad} \leq 0{,}5^{\circ}$$

Dimana : ΔD = selisih defleksi antar segmen

ΔH = selish ketinggian antar segmen

Contoh perhitungan :

Pada tower alternatif 1 section A dengan ketinggian H = 8,00 m dan Δ = 0,57 mm

$$\text{Sway} = \frac{0{,}57}{8000} \text{ rad} = 0{,}00007 \text{ rad}$$

$$= 0{,}00413 \text{ degree}$$

Untuk perhitungan kontrol sway masing-masing desain dapat ditabelkan sebagai berikut :

Kontrol sway/goyangan desain alternatif 1

Segmen	No. Joint	Defleksi		ΔD	ΔH	Sway		S < 0,5° ... OK !
		X	Y			Radiant	Degree (S)	S > 0,5° ... NOK !
A	250	0.00	0.00					
	44	-4.27	0.05					
	249	0.86	-0.15					
	50	6.70	-0.27					
	248	21.07	-0.57	21.07	8000	0.00263	0.15361	OK !
B	66	4.00	-2.96					
	242	1.03	-1.39					
	62	-2.34	1.79					
	241	5.21	-2.31	15.86	8000	0.00198	0.11562	OK !
C	68	-1.80	2.92					
	234	0.60	3.57					
	74	4.11	-4.24					
	233	17.26	-5.07	1.40	8000	0.00018	0.01022	OK !
D	80	5.96	-5.91					
	232	1.10	6.73					
	86	-1.90	7.51					
	227	4.27	-8.42	4.56	8000	0.00057	0.03325	OK !
E	92	-7.54	9.57					
	226	0.63	10.83					
	98	19.83	12.08					
	225	39.72	-13.67	35.16	8000	0.00439	0.25637	OK !
F	104	12.19	15.08					
	224	0.12	16.53					
	110	-3.37	19.15					
	212	-2.54	21.82	13.34	8000	0.00167	0.09725	OK !
G	115	-11.43	23.47					
	211	0.56	25.01					
	121	15.31	26.62					
	210	46.66	-28.60	33.32	8000	0.00417	0.24296	OK !
H	127	24.47	31.20					
	131	4.64	33.83					
	136	-23.23	36.22					
	203	-37.60	38.74	5.42	8000	0.00068	0.03951	OK !
I	142	-32.31	41.12					
	202	-0.85	43.53					
	148	42.83	45.93					
	201	82.24	48.58	56.83	8000	0.00710	0.41436	OK !
J	154	19.74	51.52					
	159	-2.10	54.85					
	164	-25.84	58.16					
	190	28.03	-7.07	1.33	8000	0.00017	0.00971	OK !
K	189	-2.37	-1.34					
	188	-1.60	-0.90	3.71	4000	0.00093	0.05404	OK !
L	187	-1.35	-0.76					
	168	-1.37	-1.02	5.07	4000	0.00127	0.07395	OK !
M	174	-2.27	-1.29					
	173	-2.55	-1.49	7.82	4000	0.00191	0.11118	OK !
N	172	-1.95	-1.69					
	171	-0.51	-1.90	9.57	4000	0.00239	0.13962	OK !
O	170	-0.91	-2.12					
	169	-1.21	-2.33	11.91	4000	0.00298	0.17366	OK !
P	1	-0.66	-1.08	12.99	2000	0.00649	0.37875	OK !
Q	38	-9.01	-13.79					
	35	-10.15	-14.66					
	32	-11.27	-15.55					
	29	-12.38	-16.45					
	26	-13.50	-17.35					
	23	-14.61	-18.27					
	20	-15.73	-19.19					
	17	-16.84	-20.11					
	14	-17.95	-21.04					
	11	-19.05	-21.96					
	8	-20.16	-22.89					

Kontrol sway/goyangan desain alternatif 2

Segmen	No. Joint	Defleksi		ΔD	ΔH	Sway		S < 0,6° ... OK ! S > 0,6° ... NOK !
		X	Y			Radiant	Degree (S)	
A	1	-5.55	113.40					
	44	-17.13	41.67					
	249	-11.29	68.97					
	50	-17.91	15.68					
	248	-11.05	68.65	11.05	8000	0.00138	0.08059	OK !
B	66	0.01	-1.52					
	242	-13.14	65.64					
	62	-19.49	117.44					
	241	-3.99	-65.46	15.04	8000	0.00188	0.10970	OK !
C	68	-18.05	1.88					
	234	-3.74	-59.78					
	74	-8.00	2.32					
	233	39.24	60.18	24.19	8000	0.00302	0.17641	OK !
D	80	-17.82	3.32					
	232	4.19	59.94					
	86	-16.66	4.01					
	227	24.91	57.31	0.71	8000	0.00009	0.00519	OK !
E	92	-7.31	4.63					
	226	7.20	57.19					
	98	-17.54	6.00					
	225	-13.91	52.56	14.62	8000	0.00183	0.10658	OK !
F	104	-18.40	6.35					
	224	-13.64	52.05					
	110	-11.24	7.65					
	212	-13.52	45.01	28.14	8000	0.00352	0.20516	OK !
G	115	-1.72	-8.86					
	211	-3.22	-44.81					
	121	-1.59	-10.06					
	210	-3.09	-44.81	31.22	8000	0.00390	0.22755	OK !
H	127	-1.46	-11.46					
	131	46.11	14.06					
	136	26.37	15.34					
	203	43.79	43.02	12.57	8000	0.00157	0.09168	OK !
I	142	15.48	16.64					
	202	11.20	42.80					
	148	22.45	19.47					
	201	-13.69	39.38	26.26	8000	0.00328	0.19147	OK !
J	154	24.04	21.15					
	159	-28.49	21.87					
	164	-17.57	22.72					
	190	13.59	36.39	1.2.67	8000	0.00158	0.09238	OK !
K	189	-15.55	34.20					
	188	-15.36	33.95	28.03	4000	0.00701	0.40872	OK !
L	187	-2.59	-33.80					
	168	-2.10	-26.68	30.12	4000	0.00753	0.43928	OK !
M	174	-2.21	-27.57					
	173	64.23	28.32	34.11	4000	0.00853	0.49746	OK !
N	172	20.14	28.02					
	171	-23.27	26.35	57.38	4000	0.01435	0.43662	OK !
O	170	-23.08	26.09					
	169	-2.15	-25.68	59.53	4000	0.01488	0.46817	OK !
P	11	-5.30	105.13	64.83	2000	0.03241	0.49065	OK !
Q	38	-4.61	61.39					
	35	-4.10	83.82					
	32	-4.43	86.33					
	29	-4.54	88.90					
	26	-4.69	91.53					
	23	-4.82	94.20					
	20	-4.95	96.90					
	17	-5.07	99.63					
	14	-5.19	102.37					
	11	-5.30	105.13					
	8	-5.40	107.89					
	4	-5.48	110.65	70.31	16000	0.00391	0.22788	OK !

Kontrol sway/goyangan desain alternatif 3

Segmen	No. Joint	Defleksi		ΔD	ΔH	Sway		S < 0,5° ... OK !
		X	Y			Radiant	Degree (S)	S > 0,5° ... NOK !
A	362	-6.34	6.35					
	200	-3.92	4.99					
	251	-75.32	-11.65					
	206	6.09	-25.77					
	350	19.29	-53.53	19.29	8000	0.00241	0.14067	OK !
B	212	5.91	-91.76					
	344	0.93	-1.32					
	218	-1.86	1.70					
	348	0.41	1.33	18.88	8000	0.00236	0.13768	OK !
C	224	-1.15	2.77					
	366	0.52	-3.37					
	230	3.06	-3.98					
	335	14.48	-4.74	4.40	8000	0.00055	0.03207	OK !
D	236	4.65	-5.54					
	334	1.08	-8.32					
	242	-0.46	7.07					
	329	6.02	-7.96	0.25	8000	0.00003	0.00183	OK !
E	248	-0.11	9.03					
	328	-0.31	10.15					
	254	3.69	-11.31					
	327	11.64	-12.61	11.39	8000	0.00142	0.08305	OK !
F	260	2.50	-13.68					
	326	0.90	14.78					
	266	21.26	-17.16					
	314	30.46	-19.62	31.01	8000	0.00388	0.22610	OK !
G	271	5.12	-20.95					
	313	-2.35	-22.18					
	277	-8.76	-23.46					
	312	1.71	-25.09	29.30	8000	0.00366	0.21366	OK !
H	283	-6.60	-27.33					
	287	-0.70	-29.58					
	292	5.93	-31.60					
	387	-0.90	-3.37	32.68	8000	0.00406	0.23827	OK !
I	298	15.39	-35.73					
	306	-2.84	-37.77					
	304	-12.22	-39.79					
	119	9.09	-42.02	23.58	8000	0.00295	0.17197	OK !
J	122	-23.21	44.61					
	105	-16.63	47.21					
	95	-3.56	-49.74	27.15	8000	0.00339	0.19794	OK !
K	98	-18.58	52.36					
	71	-3.89	-57.58	31.03	4000	0.00776	0.45258	OK !
L	74	-15.05	60.48					
	65	70.80	63.08	39.77	4000	0.00994	0.47995	OK !
M	50	-12.94	69.34					
	16	-4.18	-75.51	43.94	4000	0.01099	0.44085	OK !
N	26	-11.47	78.87					
	22	-11.15	82.22	55.10	4000	0.01377	0.40347	OK !
O	3	-4.23	-85.45	11.15	1500	0.00743	0.42365	OK !
P	126	-4.46	-87.92					
	132	-5.62	-90.46					
	138	-6.55	-93.05					
	144	-7.52	-95.69					
	150	-8.48	-98.36					
	156	-9.44	-101.07					
	162	-10.39	-103.79					
	168	-11.33	-106.53					
	175	-12.27	-109.26					
	178	-12.76	110.71					
	186	-14.12	-114.78					
	192	-15.04	-117.53	128.68	18000	0.00715	0.41703	OK !

5.2. Pemilihan Alternatif Desain Yang Paling Ekonomis .

Dalam perencanaan struktur baja, struktur harus didesain :

- Aman

  Suatu struktur baja tentu saja harus direncanakan cukup kuat untuk memikul beban yang bekerja padanya. Juga harus diperhitungkan agar lendutan tidak besar, sehingga dapat menjamin rasa aman.

- Ekonomis

  Selain harus kuat dan aman, struktur baja harus direncanakan dengan biaya semurah-murahnya.

  Murah disini dapat ditinjau dari dua segi, yaitu :

  - Segi bahan : pemilihan profil sedemikian rupa sehingga didapat struktur yang seringan mungkin. Harga bahan baja dihitung dengan satuan (Rp/kg).
  - Segi ongkos : pemilihan metode pelaksanaan yang mudah dan cepat. Juga pemilihan sambungan yang sederhana, sehingga pengerjaan cepat. Ongkos dihitung dengan satuan (Rp/jam).

Pemilihan alternatif desain yang paling ekonomis dalam tugas akhir ini hanya diperhitungkan dari segi bahan saja. Jadi diantara tiga macam alternatif desain tersebut diambil satu yang mempunyai berat sendiri yang paling ringan. Dari output perhitungan SAP2000 didapatkan reaksi akibat berat sendiri sebagai berikut :

Alternatif 1 : 49.794,06 kg

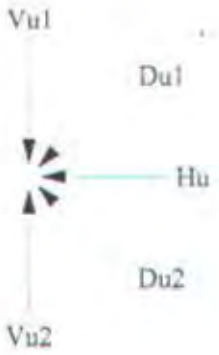
Alternatif 2 : 55.882,21 kg

Alternatif 3 : 54.156,40 kg

Diantara ketiga alternatif yang mempunyai berat terkecil adalah alternatif 1. Untuk perhitungan selanjutnya hanya membahas struktur tower alternatif 1 saja, sebagai desain yang mempunyai berat paling ringan. Perhitungan selanjutnya, yaitu perhitungan sambungan dan perhitungan pondasi.

5.3. Perhitungan Sambungan

Contoh perhitungan sambungan baut batang tepi menerus :



Vu1 = 103049,18 kg (frame 291)
Vu2 = 102556,33 kg (frame 292)
Du1 = 10461,65 kg (frame 487)
Du2 = 7528,41 kg (frame 489)
Hu = 1584,34 kg (frame 472)

Baja BJ 37

fy = 2400,00 kg/cm^2

fu = 3700,00 kg/cm^2

Direncanakan : Ø baut = 16 mm

Tebal pelat = 10 mm

Kontrol kekuatan baut tipe tumpu :

Kuat geser : $\phi.Rn = 0,75 \times (0,5 . fu) \times n \times Ab$ n = jumlah bidang geser = 1

$= 0,75 \times (0,5 \times 3700) \times 1 \times 2,01$

= 2788,88 kg ..... menentukan !!!

Kuat tumpu : $\phi.Rn = 0,75 \times (2,4 \times d \times tp \times fu)$

$= 0,75 \times (2,4 \times 1,6 \times 1,0 \times 3700)$

= 10656,00 kg

Banyaknya baut :

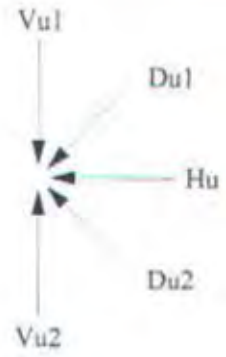
$$n1 = \frac{Du1}{\varphi.Rn} = \frac{10461,65}{2788,88} = 3,75 \sim 4 \text{ baut}$$

$$n2 = \frac{Du2}{\varphi.Rn} = \frac{7528,41}{2788,88} = 2,70 \sim 3 \text{ baut}$$

$$n3 = \frac{Hu}{\varphi.Rn} = \frac{1584,34}{2788,88} = 0,57 \sim 2 \text{ baut}$$

$$n4 = \frac{Vu1 + Vu2}{\varphi.Rn} = \frac{103049,18 - 102556,33}{2788,88} = 0,18 \sim 2 \text{ baut}$$

Contoh perhitungan sambungan baut batang tepi terputus :



Vu1 = 109499,98 kg (frame 289)

Vu2 = 102961,04 kg (frame 290)

Du1 = 12197,18 kg (frame 517)

Du2 = 22170,98 kg (frame 448)

Hu = 0

Baja BJ 37

fy = 2400,00 kg/cm^2

fu = 3700,00 kg/cm^2

Direncanakan : Ø baut = 16 mm

Tebal pelat = 10 mm

Kontrol kekuatan baut tipe tumpu :

Kuat geser : $\phi.Rn$ = 0,75 x (0,5 . fu) x n x Ab n = jumlah bidang geser = 1

= 0,75 x (0,5 x 3700) x 1 x 2,01

= 2788,88 kg ..... menentukan !!!

Kuat tumpu : $\phi.Rn$ = 0,75 x (2,4 x d x tp x fu)

= 0,75 x (2,4 x 1,6 x 1,0 x 3700)

= 10656,00 kg

Banyaknya baut :

$$n1 = \frac{Du1}{\varphi.Rn} = \frac{12197,18}{2788,88} = 4,37 \sim 5 \text{ baut}$$

$$n2 = \frac{Du2}{\varphi.Rn} = \frac{22170,98}{2788,88} = 7,95 \sim 8 \text{ baut}$$

$$n3 = \frac{Hu}{\varphi.Rn} = 0$$

$$n4 = \frac{Vu1 + Vu2}{\varphi.Rn} = \frac{109499,98 - 102961,04}{2788,88} = 2,34 \sim 3 \text{ baut}$$

Untuk perhitungan selanjutnya baik itu sambungan batang tepi menerus maupun sambungan batang tepi terputus dapat ditabelkan sebagai berikut :

Perhitungan sambungan baut batang tepi tipe menerus

Kode Samb	Gaya Batang					Jumlah Baut			
	Vu1 (kg)	Vu2 (kg)	Hu (kg)	Du1 (kg)	Du2 (kg)	n1	n2	n3	n4
A1	102,556.33	102,593.59	12,226.21	-	-	-	-	5.00	2.00
A2	103,049.18	102,556.33	1,584.34	10,461.65	7,528.41	4.00	3.00	2.00	2.00
A3	102,961.04	103,049.18	16,110.03	-	-	-	-	6.00	2.00
B1	109,422.16	109,499.98	19,533.55	-	-	-	-	8.00	2.00
B2	109,594.04	109,422.16	7,375.30	16,238.67	631.41	6.00	2.00	3.00	2.00
B3	109,515.82	109,594.04	21,114.08	-	-	-	-	8.00	2.00
C1	116,324.71	116,384.52	12,980.57	-	-	-	-	5.00	2.00
C2	115,703.39	116,324.71	5,029.46	14,657.05	2,991.29	6.00	2.00	2.00	2.00
C3	116,546.33	115,703.39	20,897.80	-	-	-	-	8.00	2.00
D1	123,446.89	123,503.43	16,254.90	-	-	-	-	6.00	2.00
D2	123,632.52	123,446.89	5,472.99	12,593.01	10,784.28	5.00	4.00	2.00	2.00
D3	123,567.41	123,632.52	17,425.65	-	-	-	-	7.00	2.00
E1	47,815.59	47,859.73	10,146.20	-	-	-	-	4.00	2.00
E2	48,010.03	47,815.59	5,973.16	1,157.23	7,272.87	2.00	3.00	3.00	2.00
E3	47,963.72	48,010.03	675.57	-	-	-	-	2.00	2.00
F1	54,960.77	55,018.58	14,234.87	-	-	-	-	6.00	2.00
F2	54,931.74	54,960.77	7,319.53	15,503.98	10,571.66	6.00	4.00	3.00	2.00
F3	54,884.83	54,931.74	19,547.00	-	-	-	-	8.00	2.00
G1	61,144.24	61,171.96	7,554.27	-	-	-	-	3.00	2.00
G2	61,540.40	61,144.24	4,414.52	9,753.16	2,693.10	4.00	2.00	2.00	2.00
G3	61,485.65	61,540.40	14,888.58	-	-	-	-	6.00	2.00
H1	69,036.06	69,086.18	11,322.17	-	-	-	-	5.00	2.00
H2	68,922.35	69,036.06	3,465.62	11,390.99	9,477.72	5.00	4.00	2.00	2.00
H3	68,886.40	68,922.35	10,858.38	-	-	-	-	4.00	2.00
I1	57,284.21	57,287.26	1,475.95	-	-	-	-	2.00	2.00
I2	57,427.69	57,284.21	129.01	9,963.04	1,838.81	4.00	2.00	2.00	2.00
I3	57,411.73	57,427.69	9,844.27	-	-	-	-	4.00	2.00
J1	6,419.48	6,432.78	741.53	-	-	-	-	2.00	2.00
J2	6,419.18	6,419.48	665.88	1,609.00	2,040.40	2.00	2.00	2.00	2.00
J3	6,436.36	6,419.18	129.34	-	-	-	-	2.00	2.00
K1	65,940.70	65,946.01	292.46	-	-	-	-	2.00	2.00
K2	70,586.86	65,940.70	-	8,381.90	8,870.50	4.00	4.00	-	2.00
L1	70,595.90	70,586.86	13,024.89	-	-	-	-	5.00	2.00
M1	71,706.72	71,705.66	1,963.20	-	-	-	-	2.00	2.00
M2	73,984.97	71,706.72	4,398.32	8,419.06	11,164.68	4.00	5.00	2.00	2.00
N1	73,987.10	73,984.97	12.47	-	-	-	-	2.00	2.00
O1	76,007.02	76,003.35	12,430.93	-	-	-	-	5.00	2.00
O2	40,195.19	76,007.02	3,573.88	2,430.29	13,659.08	2.00	5.00	2.00	13.00
Q1	42,273.33	41,154.15	856.69	8,460.77	10,867.93	4.00	4.00	2.00	2.00
Q2	43,340.38	42,273.33	856.69	8,460.77	10,867.93	4.00	4.00	2.00	2.00
Q3	48,082.71	43,340.38	856.69	8,460.77	10,867.93	4.00	4.00	2.00	2.00
Q4	39,180.26	48,082.71	856.69	8,460.77	10,867.93	4.00	4.00	2.00	4.00
Q5	31,138.63	39,180.26	856.69	8,460.77	10,867.93	4.00	4.00	2.00	3.00
Q7	17,645.87	23,959.59	856.69	8,460.77	10,867.93	4.00	4.00	2.00	3.00
Q8	12,200.86	17,645.87	856.69	8,460.77	10,867.93	4.00	4.00	2.00	2.00
Q9	7,623.01	12,200.86	856.69	8,460.77	10,867.93	4.00	4.00	2.00	2.00
Q10	3,950.38	7,623.01	856.69	8,460.77	10,867.93	4.00	4.00	2.00	2.00
Q11	972.98	3,950.38	856.69	8,460.77	10,867.93	4.00	4.00	2.00	2.00

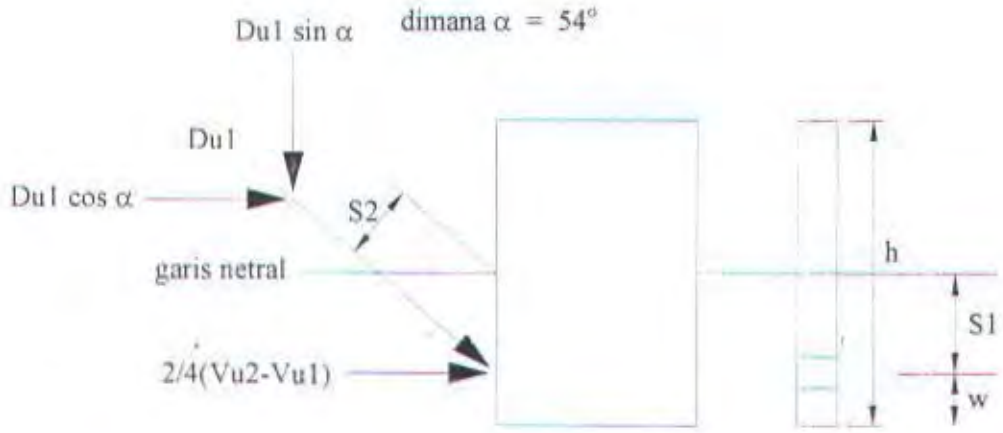
Perhitungan sambungan baut batang tepi tipe terputus

Kode Samb.	Gaya Batang					Jumlah Baut			
	Vu1 (kg)	Vu2 (kg)	Hu (kg)	Du1 (kg)	Du2 (kg)	n1	n2	n3	n4
A4	109,499.98	102,961.04	-	12,197.18	22,170.98	5.00	8.00	-	3.00
B4	116,384.52	109,515.82	-	47,583.16	48,128.79	18.00	18.00	-	3.00
C4	123,503.43	116,546.33	-	18,099.29	26,533.79	7.00	10.00	-	3.00
D4	47,859.73	123,567.41	-	10,303.93	6,943.13	4.00	3.00	-	28.00
E4	55,018.58	47,963.72	-	17,896.96	23,067.37	7.00	9.00	-	3.00
F4	61,171.96	54,884.83	-	2,267.82	26,444.52	2.00	10.00	-	3.00
G4	69,086.18	61,485.65	-	15,015.95	3,051.79	6.00	2.00	-	3.00
H4	57,287.26	68,886.40	-	17,632.42	15,697.68	7.00	6.00	-	5.00
I4	6,432.78	57,411.78	-	18,104.42	6,134.28	7.00	3.00	-	19.00
J4	65,946.01	6,436.36	-	7,627.52	20,657.50	3.00	8.00	-	22.00
L2	71,705.66	70,595.90	2,309.88	7,034.32	9,534.65	3.00	4.00	2.00	2.00
N2	76,003.35	73,987.10	2,619.34	5,081.62	7,988.63	2.00	3.00	2.00	2.00
P	41,154.15	40,195.19	406.86	8,460.77	2,223.80	4.00	2.00	2.00	2.00
Q6	23,959.59	31,138.63	856.69	8,460.77	10,867.93	4.00	4.00	2.00	3.00
Q12	-	972.98	856.69	8,460.77	10,867.93	4.00	4.00	2.00	2.00

5.3.1. Kontrol Kekuatan Pelat Simpul

Kontrol Kekuatan Pelat Simpul Batang Tepi Menerus :

Vu1 = 103049,18 kg (frame 291)
Vu2 = 102556,33 kg (frame 292)
Du1 = 10461,65 kg (frame 487)
Du2 = 7528,41 kg (frame 489)
Hu = 1584,34 kg (frame 472)



S1 = (½ . h) – w
= (½ x 25) – 5,5 = 7 cm

S2 = 7 x sin 36° = 4,1 cm

Nut = ½ . (Vu2 – Vu1) + Du1 . cos 54°
= [½ x (102556,33 – 103049,18)] + (10461,65 x cos 54°) = 5902,78 kg

Mut = ½ . (Vu2 – Vu1) . S1 + Du1 . S2
= [½ x (102556,33 – 103049,18) x 7] + (10461,65 x 4,11) = 41272,41 kg

Vu = Du1 . sin 54°
= 10461,65 x sin 54° = 8463,65 kg

Ag = t x h
= 1,0 x 25 = 25 cm^2

An = t x h - A_{lubang}

= 25 – (1,6 x 1,0) = 23,4 cm^2

Z = ¼ . t x h^2 - A_{lubang} x jarak

= (¼ x 1,0 x 25^2) – (1,6 1,0 7) = 145,05 cm^3

Φ . Nnt = 0,9 x fy x Ag

= 0,9 x 2400 x 25 = 54000 kg

= 0,75 x fu x An

= 0,75 x 3700 x 23,4 = 64935 kg

Φb . Mn = 0,9 x Z x fy

= 0,9 x 145,05 x 2400 = 313308 kg

Φv . Vn = 0,75 x (0,6 x An x fu)

= 0,75 x (0,6 x 23,4 x 3700) = 38961 kg

Kontrol kekuatan :

$$\left[\left(\frac{Nut}{\varphi.Nnt}\right)+\left(\frac{Mu}{\varphi b.Mn}\right)\right]^2+\left(\frac{Vu}{\varphi v.Vn}\right)^2 \le 1$$

$$\left[\left(\frac{5902,78}{54000}\right)+\left(\frac{41272,41}{313308}\right)\right]^2+\left(\frac{8463,65}{38961}\right)^2 = 0,105 < 1 \quad \ldots\ldots \quad \text{OK !!!}$$

Kontrol Kekuatan Pelat Simpul Batang Tepi Terputus :

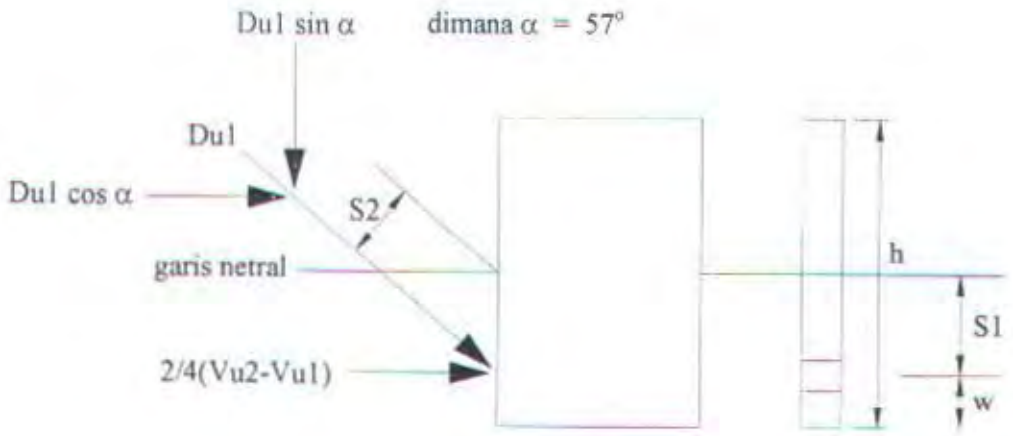
Vu1 = 109499,98 kg (frame 289)

Vu2 = 102961,04 kg (frame 290)

Du1 = 12197,18 kg (frame 517)

Du2 = 22170,98 kg (frame 448)

Hu = 0



S1 = (½ . h) – w

= (½ x 25) – 5,5 = 7 cm

S2 = 7 x sin 33° = 3,81 cm

Nut = ½ . (Vu2 – Vu1) + Du1 . cos 57°

= [½ x (102961,04 – (½ x 109499,98)] + (22170,98 x cos 57°) = 36180,71 kg

Mut = ½ . (Vu2 – Vu1) . S1 + Du1 . S2

= [½ x (102961,04 – (½ x 109499,98) x 7] + (22170,98 x 3,81) = 53210,11 kg

Vu = Du2 . sin 57°

= 22170,98 x sin 57° = 18594,15 kg

Ag = t x h

= 1,0 x 25 = 25 cm^2

An = t x h - A_{lubang}

= 25 – (1,6 x 1,0) = 23,4 cm^2

Z = ¼ . t x h^2 - A_{lubang} x jarak

= (¼ x 1,0 x 25^2) – (1,6 1,0 7) = 145,05 cm^3

Φ . Nnt = 0,9 x fy x Ag

= 0,9 x 2400 x 25 = 54000 kg

= 0,75 x fu x An

= 0,75 x 3700 x 23,4 = 64935 kg

Φb . Mn = 0,9 x Z x fy

= 0,9 x 145,05 x 2400 = 313308 kg

$\Phi v \,.\, Vn = 0{,}75 \times (0{,}6 \times An \times fu)$

$= 0{,}75 \times (0{,}6 \times 23{,}4 \times 3700) = 38961 \text{ kg}$

Kontrol kekuatan :

$$\left[\left(\frac{Nut}{\varphi.Nnt}\right)+\left(\frac{Mu}{\varphi b.Mn}\right)\right]^2+\left(\frac{Vu}{\varphi v.Vn}\right)^2 \leq 1$$

$$\left[\left(\frac{36180{,}71}{54000}\right)+\left(\frac{53210{,}11}{313308}\right)\right]^2+\left(\frac{18594{,}15}{38961}\right)^2 = 0{,}930 < 1 \quad \ldots\ldots \quad \text{OK !!!}$$

BAB VI

PERHITUNGAN STRUKTUR BANGUNAN BAWAH

BAB VI
PERHITUNGAN STRUKTUR BANGUNAN BAWAH

Struktur bangunan bawah merupakan bagian yang sangat vital pada sebuah bangunan. Karena itu, perencanaan pondasi harus dilakukan secara cermat dan teliti dengan menggunakan berbagai macam pertimbangan, antara lain : kondisi tanah, jenis dan struktur tanah, serta kemampuan tanah dalam memikul beban yang terjadi pada struktur diatasnya.

Pada perencanaan struktur tower ini, digunakan pondasi tiang pancang untuk lebih dapat menahan beban tekan maupun tarik akibat beban-beban lateral tower.

6.1. Data Perencanaan

Kedalaman tiang pancang	: 12 meter
Dimensi tiang pancang	: 20 cm x 20 cm (penampang bujursangkar)
Keliling tiang pancang (K)	: 80 cm
Luas tiang pancang (A)	: 400 cm^2
Nilai conus (C) rata-rata	: 76,43 kg/cm^2
Nilai JHP	: 162 kg/cm
Mutu baton (fc')	: 25 MPa
Mutu baja (fy)	: 400 MPa

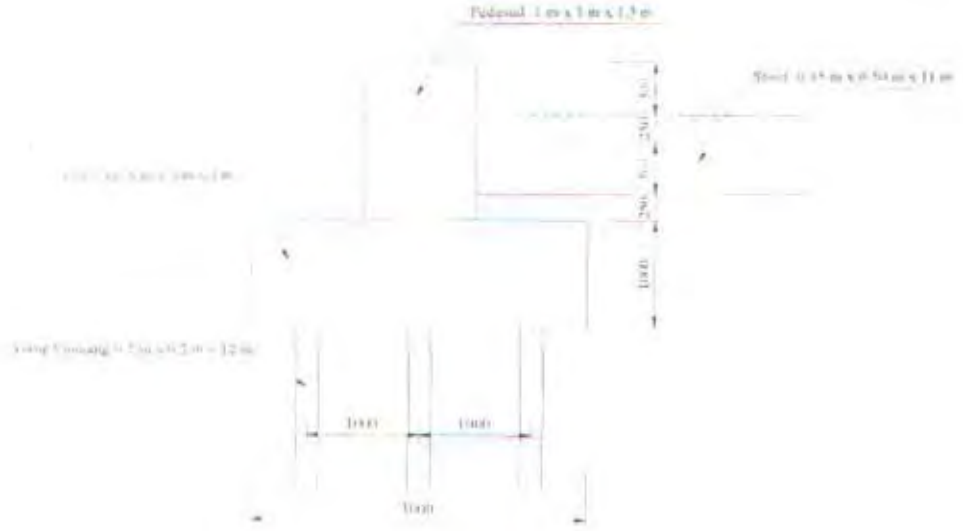
6.2. Perencanaan Tiang Pancang

Dimensi pile cap : B = 3,00 m
L = 3,00 m
T = 1,00 m
Volume = 3,00 m x 3,00 m x 1,00 m = 9,00 m3
Berat = 9,00 m3 x 2400 kg/m3 = 21.600,00 kg

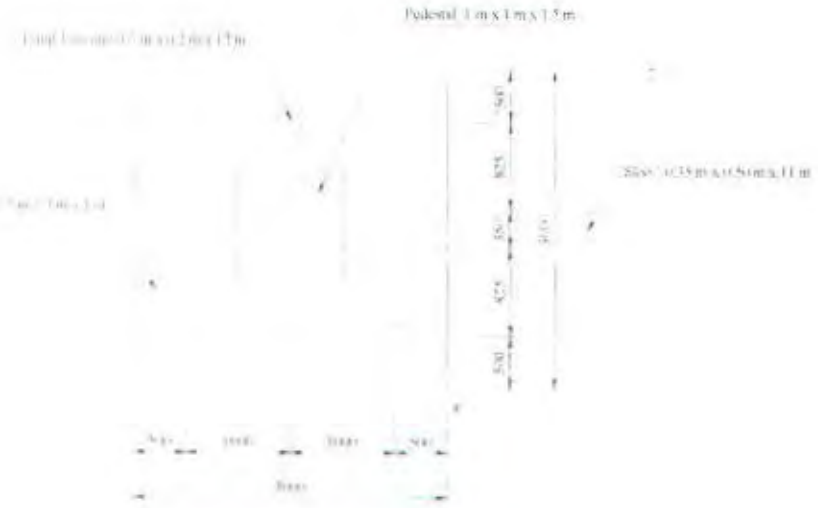
Dimensi kolom pedestal : B = 1,00 m
H = 1,00 m
L = 1,50 m

Volume = 1,00 m x 1,00 m x 1,50 m = 1,50 m3

Berat = 1,50 m3 x 2400 kg/m3 = 3.600,00 kg



Gambar 6.1. Tampak samping pondasi



Gambar 6.2. Tampak atas pondasi

Berat dari pile cap dan kolom = 21.600,00 kg + 3.600,00 kg = 25.200,00 kg

Berat dari tanah diatas pondasi :

$$\gamma t = \frac{1{,}627 + 1{,}657}{2} = 1{,}642 \text{ t/m}^3 = 1642 \text{ kg/m}^3$$

Berat = [(3x3x1) - (1x1x1)] m3 x 1642 kg/m^3 = 13.136,00 kg

Daya dukung dari tiang pancang itu sendiri adalah sebesar 30 – 35 ton (data terlampir).

Daya dukung tanah :

$$Q \text{ all} = \frac{A \times Cu}{3} + \frac{K \times JHP}{5}$$

Dimana : A = 20 cm x 20 cm = 400 cm^2

$$Cu = \frac{75 + 100 + 125 + 100 + 60 + 30 + 45}{7} = 76{,}43 \text{ kg/cm}^2$$

Diperoleh dari 4D atas = 12 – (4 x 0,2) = 11,20 m

4D bawah = 12 + (4 x 0,2) = 12,80 m

K = keliling tiang pancang = 80 cm

JHP = 162 kg/cm

Maka :

$$Q \text{ all} = \frac{400 \times 76{,}43}{3} + \frac{80 \times 162}{5} = 12.782{,}67 \text{ kg} < \text{daya dukung masing-masing tiang pancang.}$$

Maka daya dukung yang dipakai adalah berdasarkan daya dukung tanah.

θ = arc tg D/S

= arc tg (20/100) = 11,31

$$\text{Efisiensi } (\eta) = 1 - \theta \frac{(n-1).m + (m-1).n}{90.m.n}$$

$$= 1 - \left[11{,}31 \times \frac{(3-1).3 + (3-1).3}{90.3.3}\right] = 0{,}83$$

Jadi daya dukung tiap tiang :

Q ijin 1 tiang = $\eta \times q_{all}$

= 0,83 x 12.782,67 = 10.609,61 kg

Gaya-gaya total yang terjadi :

Gaya aksial tekan (P) = P tekan SAP2000 + berat pile cap + berat pedestal + berat tanah

= 56.237,97 + 25.200,00 + 13.136,00

= 94.573,97 kg

Gaya aksial tarik (P) = P tarik SAP2000 + berat pile cap + berat pedestal + berat tanah

= - 55.512,53 + 25.200,00 + 13.136,00

= - 17.176,53 kg

Momen arah x (Mx) = 316.34,33 kg.mm = 316,31 kg.m

Momen arah y (My) = 277.959,77 kg.mm = 277,96 kg.m

Perhitungan P :

$$P = \frac{P}{n} \pm \frac{M_y Y}{\sum Y^2} \pm \frac{M_x X}{\sum X^2}$$

Dimana : ΣX^2 $1^2 \times 3 \times 2$ = 6,00 m

$\Sigma Y^2 = 1^2 \times 3 \times 2$ = 6,00 m

Akibat P tekan :

$$P = \frac{94.573,97}{9} \pm \frac{(316,31 \times 1)}{6} \pm \frac{(-277,96 \times 1)}{6}$$

P max = 10.514,61 kg

P min = 10.501,83 kg

Ternyata : P max 10.514,61 kg < Q ijin 1 tiang = 10.609,61 kg ..... Ok !

6.4. Perencanaan Tiang Terhadap Gaya Lateral (Horisontal)

Untuk menentukan daya dukung horisontal yang diijinkan, dapat ditentukan dengan persamaan sebagai berikut :

$$Ha = \frac{K \times D}{\beta} \delta a$$ (Teknik Pondasi Ir. Suyono S. hal. 106)

Dimana : Ha = daya dukung horisontal yang diijinkan (kg)

K = koefisien reaksi lapisan tanah dibawah permukaan tanah dalam arah vertikal (kg/cm)

D = diameter tiang (cm)

δa = besar pergeseran normal (cm)

$$\beta = \sqrt[4]{\frac{K \times D}{4.EI}}$$

Perkiraan koefisien (K) dari reaksi tanah dibawah permukaan dalam arah mendatar adalah sebagai berikut :

K = $Ko \times y^{-1/2}$

Ko = $0,2 \times Eo \times D^{-3/4}$

Ko = harga K bila pergeseran permukaan sebesar 1 cm (kg/cm^3)

y = besarnya pergeseran (cm) = 1 cm (dianggap terjadi pergeseran normal)

Eo = modulus deformasi tanah = 28 x N

D = diameter tiang (cm)

N = nilai konus rata-rata 4D atas s/d 4D bawah

N rata-rata = 76,43 kg/cm^2 (kedalaman 12 m)

Eo = 28 x N

= 28 x 76,43 = 2140,04

Ko = $0,2 \times Eo \times D^{-3/4}$

= $0,2 \times 2140,04 \times 20^{-3/4}$ = 45,26

K = $Ko \times y^{-1/2}$

= $45,26 \times 1^{-1/2}$ = 45,26

Momen inersia tiang :

$$I = \frac{1}{12} D^4$$

$$= \frac{1}{12} .20^4 = 13.333,33 \text{ cm}^4$$

$$\beta = \sqrt[4]{\frac{K \times D}{4.EI}}$$

$$= \sqrt[4]{\frac{45,26 \times 20}{4 \times 2,1 \times 10^6 \times 13333,33}} = 0,017$$

$$Ha = \frac{K \times D}{\beta} \delta a$$

$$= \frac{45,26 \times 20}{0,017} \times 1 = 53247,06 \quad H = \frac{Mx}{2,5} = \frac{316,31}{2,5} = 126,52 \text{ kg} \ldots \text{OK !}$$

6.4. Perencanaan Pile Cap (Poer)

Data perencanaan :

b = 3000 mm

h = 1000 mm

d = 925 mm

Ln = 1000 mm (bentang bersih diukur dari dari muka ke muka tumpuan)

fc' = 25 MPa

fy = 400 Mpa

6.4.1. Penulangan Lentur

Kontrol balok tinggi :

$\frac{Ln}{d} = \frac{1000}{925} = 1,08 < 5 \rightarrow$ Balok tinggi (SK SNI Pasal 3.4.8-1)

$$P\ tiang = P\ max + \frac{berat\ pedestal + berat\ poer + berat\ tanah}{4}$$

$$= 10.574,25 + \frac{21.600,00 + 3.600,00 + 13.136,00}{4} = 20.158,25\ kg$$

2P tiang = 2 x 20.158,25 = 40.316,50 kg

M max = 2P x h

= 40.316,50 x 1000

= 40.316.500,00 kg.mm = 403.165.000,00 N.mm

Mu = 1,2 x 403.165.000,00

= 483.798.000,00

$Mn = \frac{Mu}{0,8} = \frac{483798000}{0,8} = 6.047.475,00$ N.mm

$Rn = \frac{Mn}{b.d^2} = \frac{6047475,00}{3000 \times 925^2} = 2,36 \times 10^{-3}$

$m = \frac{Fy}{0,85 \times fc'}$

$= \frac{400}{0,85 \times 25} = 18,82$

$\rho\ min = \frac{1,4}{fy} = \frac{1,4}{400} = 0,0035$

$$\rho \text{ perlu} = \frac{1}{m} x \left(1 - \sqrt{1 - \frac{2.m.Rn}{fy}} \right)$$

$$= \frac{1}{18.82} x \left(1 - \sqrt{1 - \frac{2.18,82.2,36.10^{-3}}{400}} \right) = 5,90 \times 10^{-6}$$

As = $\rho \times b \times d$

= $0.0035 \times 3000 \times 925 = 7712,50 \text{ mm}^2$

Dipakai tulangan utama arah x : D19 – 75 (As = 3980,38 mm^2)

Dipakai tulangan utama arah y : D19 – 75 (As = 3980,38 mm^2)

6.4.2. Penulangan Tulangan Geser Lentur

Vu = 1,2 x 2P

= 1,2 x 40316,50 = 48379,80 kg

ϕ.Vc = $0,6 \times \frac{1}{6} \times \sqrt{fc'} \times b \times d$

= $0,6 \times \frac{1}{6} \times \sqrt{25} \times 3000 \times 925 = 1387500 \text{ kg} > \text{Vu}$

Tidak perlu tulangan geser !!!

6.4.3. Kontrol Geser Ponds Akibat Kolom Pedestal

Gambar 6.3. Daerah geser pons akibat kolom pedestal

Bo = keliling daerah kritis

= [(0,5 x 2) + 1] x 4 = 8 m = 8000 mm

$\beta c = \frac{1}{1} = 1$

$Vc1 = \left(1+\frac{2}{\beta c}\right) x \frac{1}{6}\sqrt{fc'} x Bo x d$

$= \left(1+\frac{2}{1}\right) x \frac{1}{6}\sqrt{25} x 8000 x 925 = 18500000 N$

$Vc2 = \frac{\sqrt{fc'}}{3} x Bo x d x \beta c$

$= \frac{\sqrt{25}}{3} x 8000 x 925 x 1 = 1233333,33 N$ (menentukan)

$Vn = \frac{P tekan}{0}$

$\frac{56237,97}{0,6} = 93729,95 N < Vc$

Tidak perlu tulangan geser !!!

6.4.4. Kontrol Geser Ponds Akibat Tiang Pancang

Gambar 6.4. Daerah geser pons akibat tiang pancang

Bo = keliling daerah kritis tinjauan 1 tiang

= 1200 x 4 = 4800 mm

$\beta c = \frac{0.2}{0.2} = 1$

$Vc1 = \left(1 + \frac{2}{\beta c}\right) x \frac{1}{6} \sqrt{fc'} \times Bo \times d$

$= \left(1 + \frac{2}{1}\right) x \frac{1}{6} \sqrt{25} \times 4800 \times 925 = 11100000,00 \text{ N}$

$Vc2 = \frac{\sqrt{fc'}}{3} \times Bo \times d \times \beta c$

$= \frac{\sqrt{25}}{3} \times 4800 \times 925 \times 1 = 7400000 \text{ N}$ (menentukan)

$Vn = \frac{P \text{ tiang}}{0}$

$= \frac{20158,25}{0,6} = 33592,08 \text{ N} < Vc$

Tidak perlu tulangan geser !!!

6.5. Perhitungan Base Plate

Gambar 6.5. Tampak atas base plate

Gaya-gaya yang terjadi di base plate :

P = 56237.97 kg (tekan)

P = 55512.53 kg (tarik)

B = 50 cm

L = 50 cm

A = 2500 cm^2

$$W = \frac{1}{6} \times B \times L^2$$

$$= \frac{1}{6} \times 50 \times 50^2 = 20833{,}33 \text{ cm}^3$$

$$\sigma bt = \frac{fc'}{SF} = \frac{250 \text{ kg/cm}^2}{3} = 83{,}33 \text{ kg/cm}^2$$

Momen maksimum pelat terletak merata di semua daerah karena titik eksentrisitas pipa berada di tengah pelat, maka :

M = ¼ x Mx = ¼ x 3631 = 7907,75 kg.cm

Mu = 1,2 x M = 1,2 x 7907,75 = 9489,30 kg.cm

Tegangan yang terjadi untuk P tekan :

$$\sigma = \frac{P}{A} \pm \frac{M}{W}$$

$$= \frac{56237{,}97}{2500} \pm \frac{9489{,}30}{20833{,}33}$$

$$\sigma_1 = \frac{56237{,}97}{2500} + \frac{9489{,}30}{20833{,}33} = 22{,}95 \text{ kg/cm}^2 < \sigma bt$$

$$\sigma_2 = \frac{56237{,}97}{2500} - \frac{9489{,}30}{20833{,}33} = 22{,}04 \text{ kg/cm}^2 < \sigma bt$$

Tegangan yang terjadi untuk P tarik :

$$\sigma = \frac{P}{A} \pm \frac{M}{W}$$

$$= \frac{55512{,}53}{2500} = 22{,}21 \text{ kg/cm}^2 < \sigma bt$$

$$\sigma_1 = \frac{55512{,}53}{2500} + \frac{9489{,}30}{20833{,}33} = 22{,}66 \text{ kg/cm}^2 < \sigma bt$$

$$\sigma_2 = \frac{55512,53}{2500} - \frac{9489,30}{20833,33} = 21,75 \text{ kg/cm}^2 < \sigma bt$$

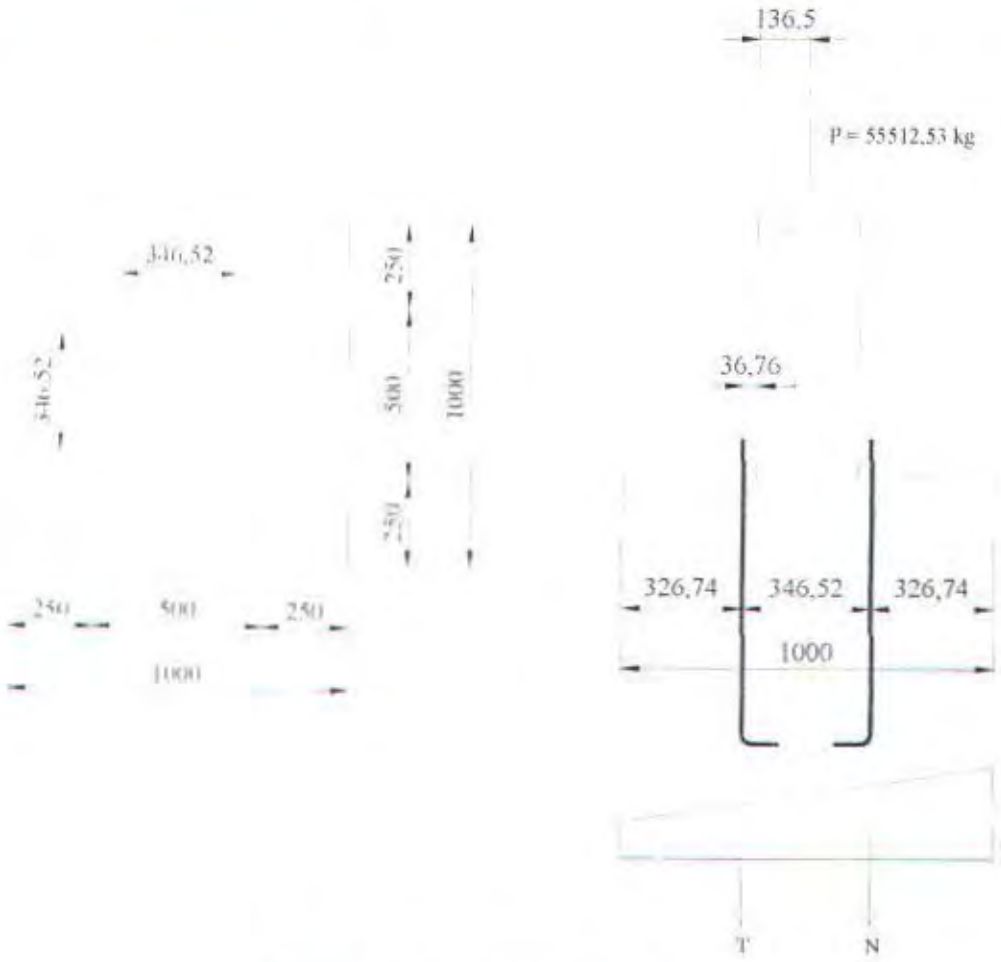
Beban terbagi rata pelat (q) = 22,95 kg/cm^2

$$\text{Tebal base plate} = \sqrt{\frac{4 \times Mu}{\varphi . fy}}$$

$$= \sqrt{\frac{4 \times 9489,30}{0,9 \times 2400}} = 4,19 \text{ cm}$$

Dipasang tebal base plate = 5,00 cm

6.6. Perhitungan Baut Angker



Gambar 6.6. Posisi angker pada base plate

Karena jarak masing-masing angker terhadap gaya P tarik adalah sama, maka :

$$N = \frac{P}{4} = \frac{55512,53}{4} = 13878,13 \text{ kg}$$

$$Nu = 1,2 \times N = 1,2 \times 13878,13 = 16653,76 \text{ kg}$$

$$\text{Luas baut angker} = \frac{Nu}{\varphi \cdot 0,75 \cdot fu}$$

$$= \frac{16653,76}{0,75 \times 0,75 \times 3700} = 8,00 \text{ cm}^2 = 80 \text{ mm}^2$$

Dipasang baut angker D12 ($A = 113,10 \text{ cm}^2$) tiap sisi.

Perhitungan panjang angker yang dibutuhkan :

Fct x A selimut x h > N

Dimana :

Fct = kuat tarik ijin beton

$$= 0,5 \cdot \sqrt{fc'} = 0,5 \cdot \sqrt{25} = 2,5 \text{ kg/cm}^2$$

$$h = \frac{16653,76}{2,5 \times \pi \times 1,2} = 132,5 \text{ cm} \sim 135 \text{ cm}$$

Dipasang baut angker ϕ 12 mm dengan panjang 135 cm.

6.7. Perhitungan Balok Sloof

Beban-beban yang diterima oleh sloof antara lain berat sendiri sloof, berat tanah dan berat aksial yang berasal dari beban aksial kolom sebesar 10%, sehingga balok sloof direncanakan seperti merencanakan kolom (PPSBBSTBUG '83 – 6.9.2).

Direncanakan balok sloof : b = 350 mm

h = 500 mm

Berat pada balok sloof :

- berat sendiri sloof : 0,35 x 0,50 x 2400 = 420,00 kg/m
- berat tanah : 0,35 x 0,25 x 1642 = 143,68 kg/m

q = 563,68 kg/m

Perhitungan momen sloof :

$M = \frac{1}{12} \times q \times l^2$

$= \frac{1}{12} \times 563,68 \times 11^2 = 5683,77 \text{ kg.m} = 56837733,33 \text{ N.mm}$

$Mu = 1,2 \times M = 1,2 \times 5683,77 = 68205280,00 \text{ Nmm}$

Akibat P tekan :

$P = 56237,97 + 3600 = 59837,97 \text{ kg} = 598379,70 \text{ N}$

$P' = 598379,70 \text{ N} \times 10\% = 59837,97 \text{ N}$

$Pu = 1,2 \times 59837,97 \text{ N} = 71805,56 \text{ N}$

$e = \frac{Mu}{Pu}$

$= \frac{68205280,00}{71805,56} = 949,86$

$\frac{e}{h} = \frac{949,86}{500} = 1,90$

Dari diagram interaksi M-N diperoleh :

Sumbu horisontal $\frac{Pu}{\phi . Agr . 0,85 . fc'} \times \left(\frac{e}{h}\right)$

$= \frac{71805,56}{0,65 . 350 . 500 . 0,85 . 25} \times 1,90 = 0,056$

Sumbu horisontal $\frac{Pu}{\phi . Agr . 0,85 . fc'}$

$= \frac{71805,56}{0,65 . 350 . 500 . 0,85 . 25} = 0,030$

$r = 0,01$

$\beta = 1$ (karena fc' = 25 MPa)

$\rho = r \times \beta = 0,01 \times 1 = 0,01$

$As = \rho \times Agr$

$= 0,01 \times 350 \times 500 = 1750 \text{ mm}^2$

Akibat P tarik :

P = 55512,53 kg = 555125,30 N

P' = 555125,30 N x 10% = 55512,53 N

Pu = 1,2 x 55512,53 N = 66615,04 N

Oleh karena beton akan retak sebelum tulangan leleh, maka hanya tulangan saja yang berperan didalam memikul tarik aksial, sehingga :

$$Pn = As \times fy$$

Dimana :

Pn = gaya yang mampu ditahan oleh tulangan
= 66615,04 N = 6661,504 kg

As = luasan beton yang menerima gaya tarik

Fy = mutu baja
= 400 Mpa = 4000 kg/cm2

Maka :

$$As_2 = \frac{Pn}{fy}$$

$$= \frac{6661.504}{4000} = 1,665\ cm^2 = 166,5\ mm^2$$

As total = $As_1 + As_2$

= $1750\ mm^2 + 166,5\ mm^2 = 1916,50\ mm^2$

Dipasang 8D20 (As = $2513,27\ mm^2$)

Perhitungan tulangan geser sloof :

V = ½ x q x l

= ½ x 563,68 x 11 = 3100,24 kg = 31002,4 N

Vu = 1,2 x 31002,4 = 37202,88 N

$$\Phi.Ve = 0,6 \times \frac{1}{6} \times \sqrt{fc'} \times b \times d$$

$$= 0,6 \times \frac{1}{6} \times \sqrt{25} \times 350 \times 450 = 78750\ N > Vu$$

Tidak perlu tulangan geser !!!

Dipasang tulangan geser praktis D10-150

6.8. Perhitungan Tulangan Pedestal

Dimensi kolom : b = 1000 mm

h = 1000 mm

P = 598379,70 N

Pu = 1,2 x 598379,70

= 718055,64 N

M = 316,31 kg.m

= 3163100 N.mm

Mu = 1,2 x 3163100

= 3795720 N.mm

$$e = \frac{Mu}{Pu}$$

$$\frac{3795720}{718055,64} = 5,29$$

$$\frac{e}{h} = \frac{5,29}{1000} = 0,005$$

Dari diagram interaksi M-N diperoleh :

Sumbu horisontal : $\frac{Pu}{\phi . Agr . 0,85 . fc'} x \left(\frac{e}{h}\right)$

$$\frac{718055,64}{0,65 . 1000 . 1000 . 0,85 . 25} x\, 0,005 = 0,0003$$

Sumbu vertikal : $\frac{Pu}{\phi . Agr . 0,85 . fc'}$

$$\frac{718055,64}{0,65 . 1000 . 1000 . 0,85 . 25} = 0,0052$$

r = 0,005

β = 1 (karena fc' = 25 MPa)

ρ = r x β = 0,005 x 1 = 0,005

As = ρ x Agr

= 0,005 x 1000 x 1000 = 5000 mm^2

Dipasang 16D20 (As = 5026 mm^2)

Perhitungan tulangan geser pedestal :

$$V = \frac{M}{\text{panjang pedestal}} = \frac{316,31}{1,5} = 474,47 \text{ kg} = 4744,70 \text{ N}$$

$$Vu = 1,2 \times 4744,70 = 5693,64 \text{ N}$$

$$\Phi.Vc = 0,6 \times \frac{1}{6} \times \sqrt{fc'} \times b \times d$$

$$= 0,6 \times \frac{1}{6} \times \sqrt{25} \times 1000 \times 950 = 475000 \text{ N} > Vu$$

Tidak perlu tulangan geser !!!

Dipasang tulangan geser praktis D10-150

BAB VII

PENUTUP

BAB VII
KESIMPULAN

Tugas Akhir yang berjudul **"Studi 3 Alternatif Struktur Tower Baja 3 Kaki Setinggi 120 Meter Untuk Antena RCTI Di Sukoharjo – Jawa Tengah"** ini merupakan suatu studi perencanaan struktur khususnya konstruksi baja untuk merencanakan suatu struktur yang kuat, aman, ekonomis dan efisien. Dari berbagai macam modifikasi desain yang direncanakan, berat aktualnya adalah :

a. Desain semula mempunyai berat sendiri = 65.014,65 kg
b. Desain alternatif 1 mempunyai berat sendiri = 49.794,062 kg
c. Desain alternatif 2 mempunyai berat sendiri = 55.882,209 kg
d. Desain alternatif 3 mempunyai berat sendiri = 54.156,402 kg

Alternatif 1 mempunyai berat yang paling ringan, sehingga dapat dikatakan desain yang paling ekonomis ditinjau dari segi bahan. Desain pada modifikasi struktur tower baja ini masih bisa dibuat lebih ekonomis lagi dengan cara mengubah panjang tiap segmen dari desain semula. Untuk mnyempurnakan Tugas Akhir ini, perlu dicoba suatu desain-desain yang lain yang barangkali mempunyai nilai yang lebih ekonomis.

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LAMPIRAN

DATA SPESIFIKASI TOWER RCTI

RCTI

RCTI YOGYAKARTA TOWER SPECIFICATION

I. SCOPED OF WORKED

1. Tower structure & tower foundation design.
2. Shop drawing.
3. As built drawing.
4. Foundation.
5. Tower construction fabrication.
6. Main antenna mounting
7. Full assembly trial erection on workshop/factory.
8. Lightning rod above antenna system
9. Earth Grounding system.
10. Tower materials galvanizing
11. Tower shipment to the site.
12. Tower Erection
13. Tower Painting
14. AC power outlet
15. Tower beacon lamp
16. Panel Box
17. Connection tower beacon light to control panel box
18. Connection between lightning rod to earth grounding point

II. TECHNICAL DATA HAVE TO BE SUBMITTED

1. Working item Breakdown list.
2. Materials Breakdown list.
3. Single line drawing with material size.
4. Design & tower construction calculation
5. Design & tower foundation calculation.
6. material technical Data (pipe, plat, profile, cable, beacon light, paint, bolt, nut)
7. Working Schedule
8. Tower construction guarantee letter for minimum 30 years

III. TOWER SPECIFICATION

Standard	:	EIA/TIA-222-F
Tower height		
Tower only	:	120 m
Tower + Antenna system	:	134 m
Tower Paint	:	ICAO Red & White
Tower main leg number	:	3 leg
Distance between main leg		
Bottom	:	max 15 m
Top		2 m

Tower Material

Prepare by TX Syatem Engineer
c:\file\proyek\mamndu\word\spesifikasi tower

Material	Standards	Yield strength
Pipe	JIS G3454 JIS G 3454 x	Fy = 240 Mpa
Steel Shape & Plates	JIS G3101	Fy = 245 Mpa
Anchor Bolt	ASTM A307/JIS B1180 G.r 8.8	Fy = 240 Mpa
Bolts	ASTM A325/JIS B1180 G.r 4.6	Fy = 505 Mpa
Hot Deep Galvanized	ASTM A123 / BS 729 : 1971	
Weld	AWS D1.1 E70XX	Fy = 345 Mpa
Concentrate K-225	ACI 318M-89	Fc = 18.32 Mpa
Plain Bar	ASTM A617	Fy = 240 Mpa
Deformed Bar	ASTM A617	Fy = 390 Mpa

Maksimum Deflection at top : 0.5° or 50 cm at v = ~~160~~ 120 km/h
0,125° or 12,5 cm at V = 80 km/h

Basic wind speed : 120 km/jam
Survival wind speed : 160 km/jam
Grounding resistance : 1ohm ≤
Galvanize Thicknes : ≥ 74 µm
Tower Loading : see bellow
Tower Paint : Three Layer
First layer Base paint Epoxy resin
Second layer Poly Urethane Enamel Paint
Third layer Poly Urethane Enamel Paint

III. LOAD FOR TOWER

1. Main Antenna

Weight : 4000 kg
Height : 14 m
Wind load at v = 160 km/h : 30 kN
Placing : Over the top of the tower

2. Second Antenna

Weight : 3000 kg
Height : 12 m
Wind load at v = 160 km/h : 25 kN
Placing : Side mounting at level 100-120 m

3. Third Antenna

Weight : 2000 kg
Height : 8 m
Wind load at v = 160 km/h : 18 kN
Placing : Side mounting at level 80 - 100 m

4. Fourth Antenna (Parabolik antenna)

Weight : 300 kg
Amount : 2 set
Diameter : 8 m
Wind load at v = 160 km/h
Placing : Side mounting at level 70 m

6. Fifth Antenna (Cellular antenna)

Weight	:	kg
Amount	:	2 set
Wind load at v = 160 km/h	:	
Placing	:	Side mounting at level 40 m

5. Main Feeder

a. Diameter	:	5 "
Amount	:	2 set
Weight	:	,4 kg/m
Placing	:	-120 m
b. Diameter	:	4 1/8"
Amount	:	2 set
Weight	:	4 kg/m
Placing	:	-100 m
c. Diameter	:	3 1/8"
Amount	:	4 set
Weight	:	kg/m
Placing	:	– 80 m

IV. TOWER ASCECORIES

1. Tower Lamp/Beacon

a. Type	:	**Medium intensity LED obstruction light**
Colour	:	Red
Luminance	:	> 1500 cd
Flashing rate	:	0.5 – 1 s
Amount	:	1 unit at level 134 m (above antenna system)
b Type	:	**Low intensity LED obstruction light**
Colour	:	Red
Luminance	:	> 10 cd
Flashing rate	:	0.5 – 1 s
Amount	:	2 unit at level ± 102 m
		2 unit at level ± 72 m
		2 unit at level ± 36 m

2. Platform/Board desk

Working plat form	:	1 set at level ± 36 m
		1 set at level ± 72 m
		1 set at level ± 102 m

Rest plat form	:	1 set at level ± 18 m
		1 set at level ± 54 m
		1 set at level ± 90 m

RCTI

3. Ladder
Width : 50 cm
Distance between step : 40 cm

4. Vertical Cable Rack
Width : 50 cm
Distance between step : 100 cm
Step size : L profile 40 mm x 40 mm x 4 mm

5. Horizontal Cable Rack
Width : 50 cm
Distance between step : 100 cm
Height : 3 m above ground
Distance tower-building : ± 30 m
Distance between tiang : > 3 m

6. Power Outlet
Amount : 7 set
Place : every flatform + top tower
Type : 2 Point, 1ϕ + E, Weather proof
Voltage : 220 VAC

7. Foot Step
Distance between step : 40 cm
Type : srew type

8. Lightning Rod
Type : EF non radio active
Place : Above antenna system

9. Grounding
Grounding Resistance : <1 ohm, each tower leg are connected to Grounding point
Grounding cable : BC 70
Grounding cable length : from grounding point to lightning rod

10. Control Panel Box
Box size : suficient
Box inside : 1ϕ CB 220 V 15 A 3 set
1ϕ CB 220 V 32 A 3 set
Photo cell control
Lightning arrester 3 set

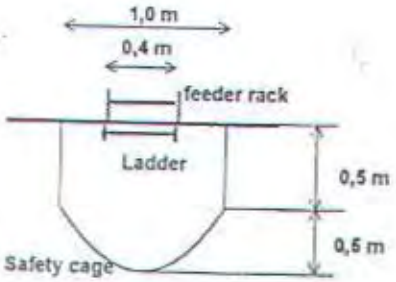
11. Safety cage
Length : 1 m
Width : 1 m

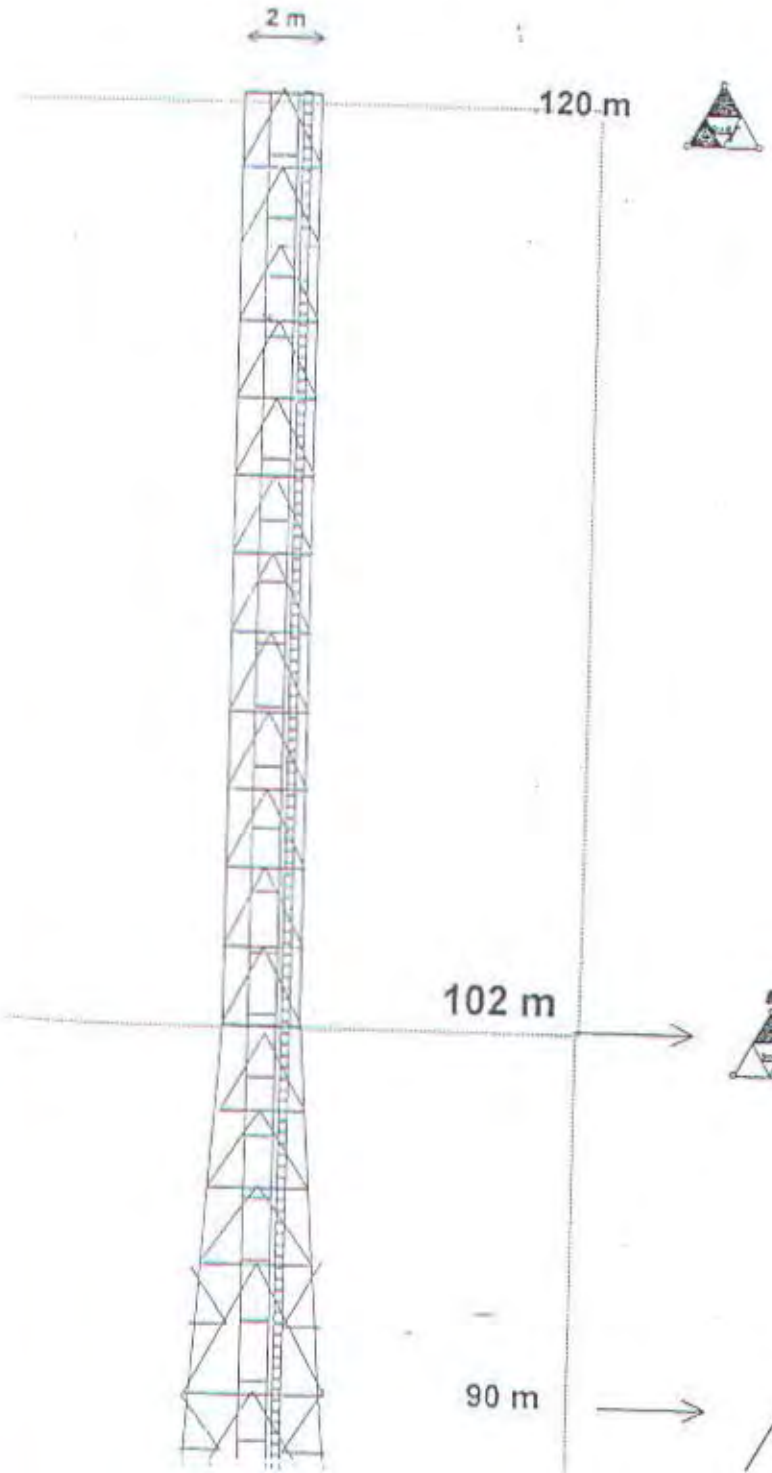
12. Power cable
Cable for light : ≥NYY 2 x 4 mm
Cable for light : ≥NYY 3 x 4 mm

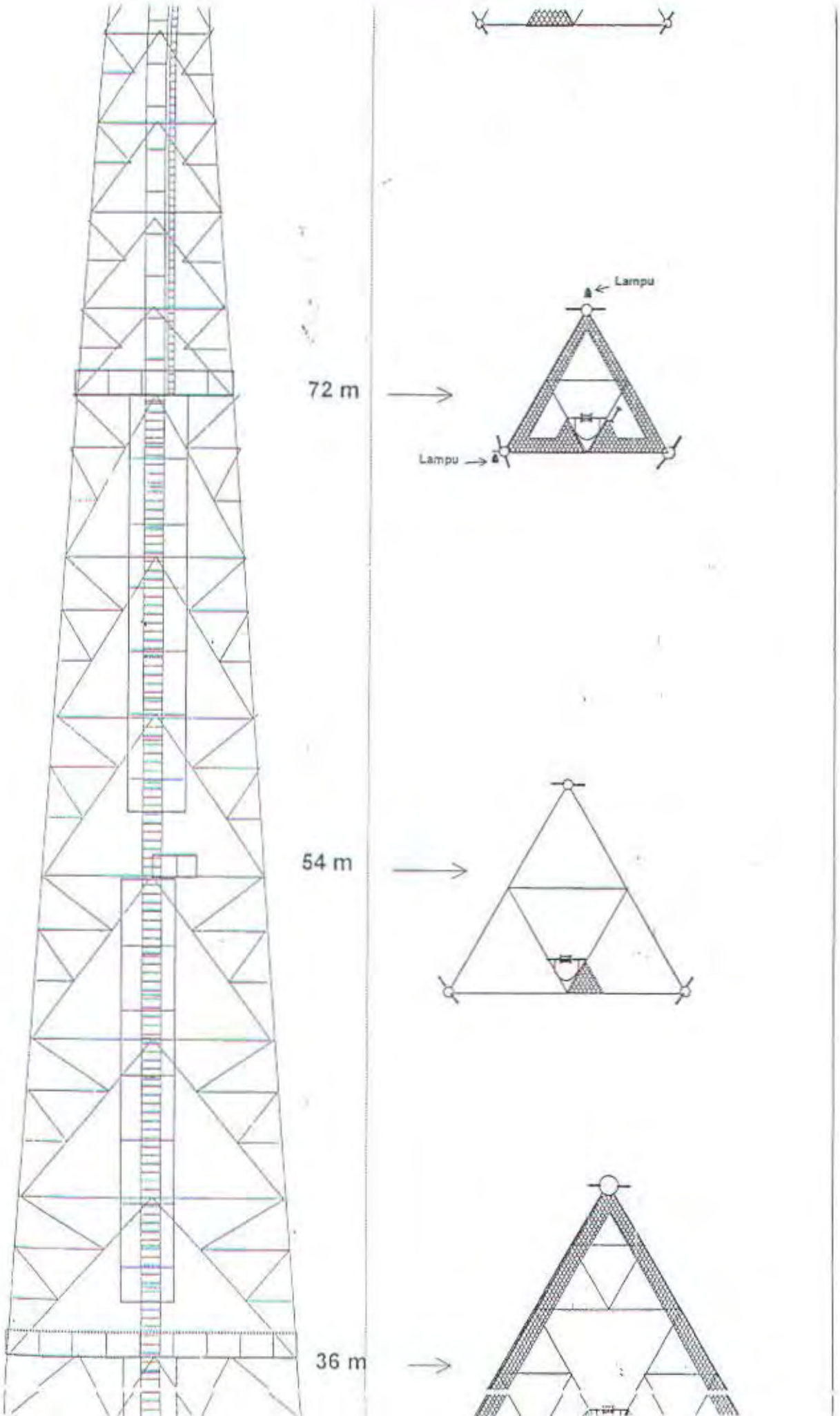
:MBAGIAN BRACING DAN SECTION HANYA DRAFT

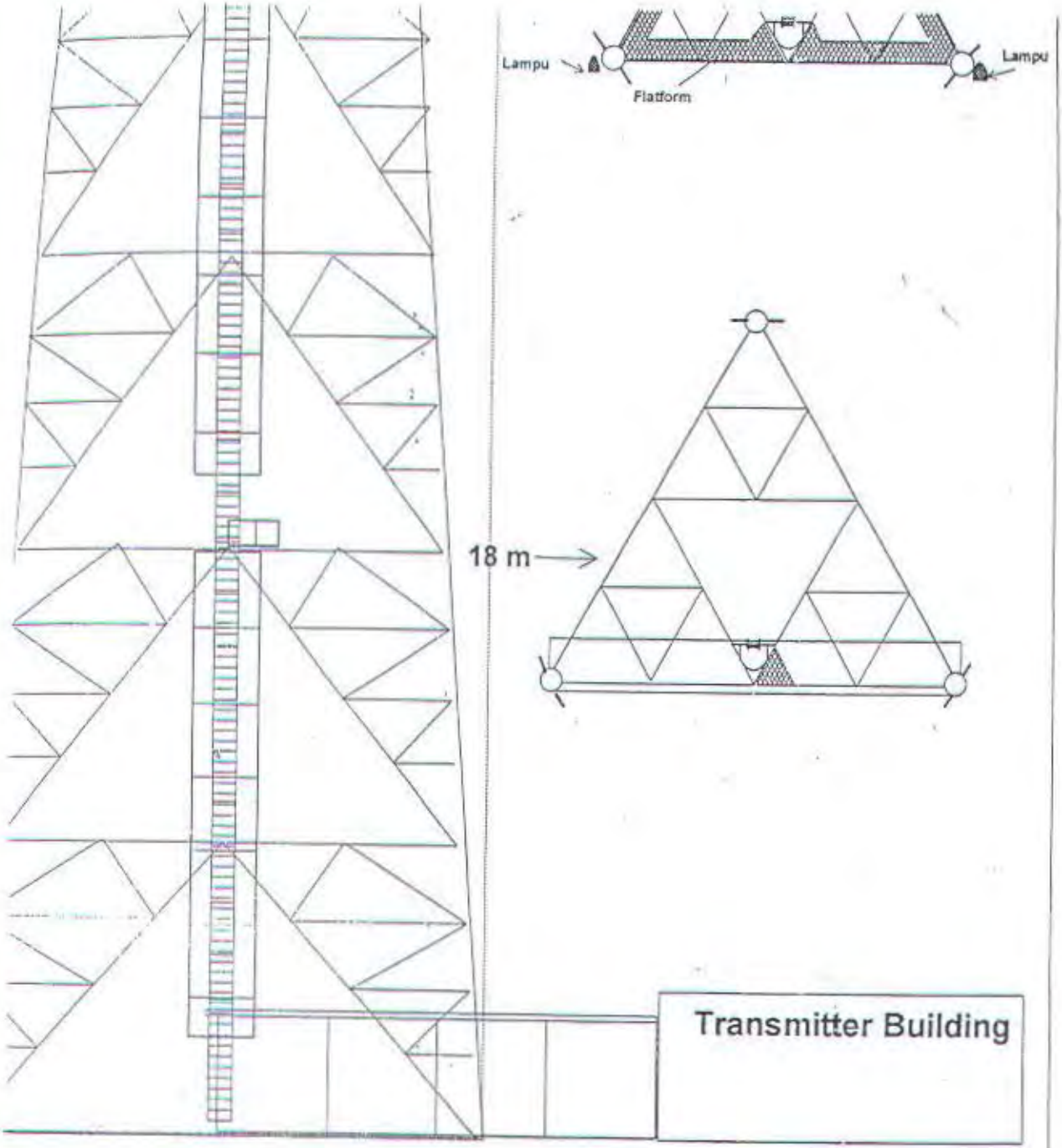
FRONT VIEW

DETAIL TANGGA






Lampu
72 m
Lampu
54 m
36 m



SPESIFIKASI TOWER RCTI YOGYAKARTA

RCTI

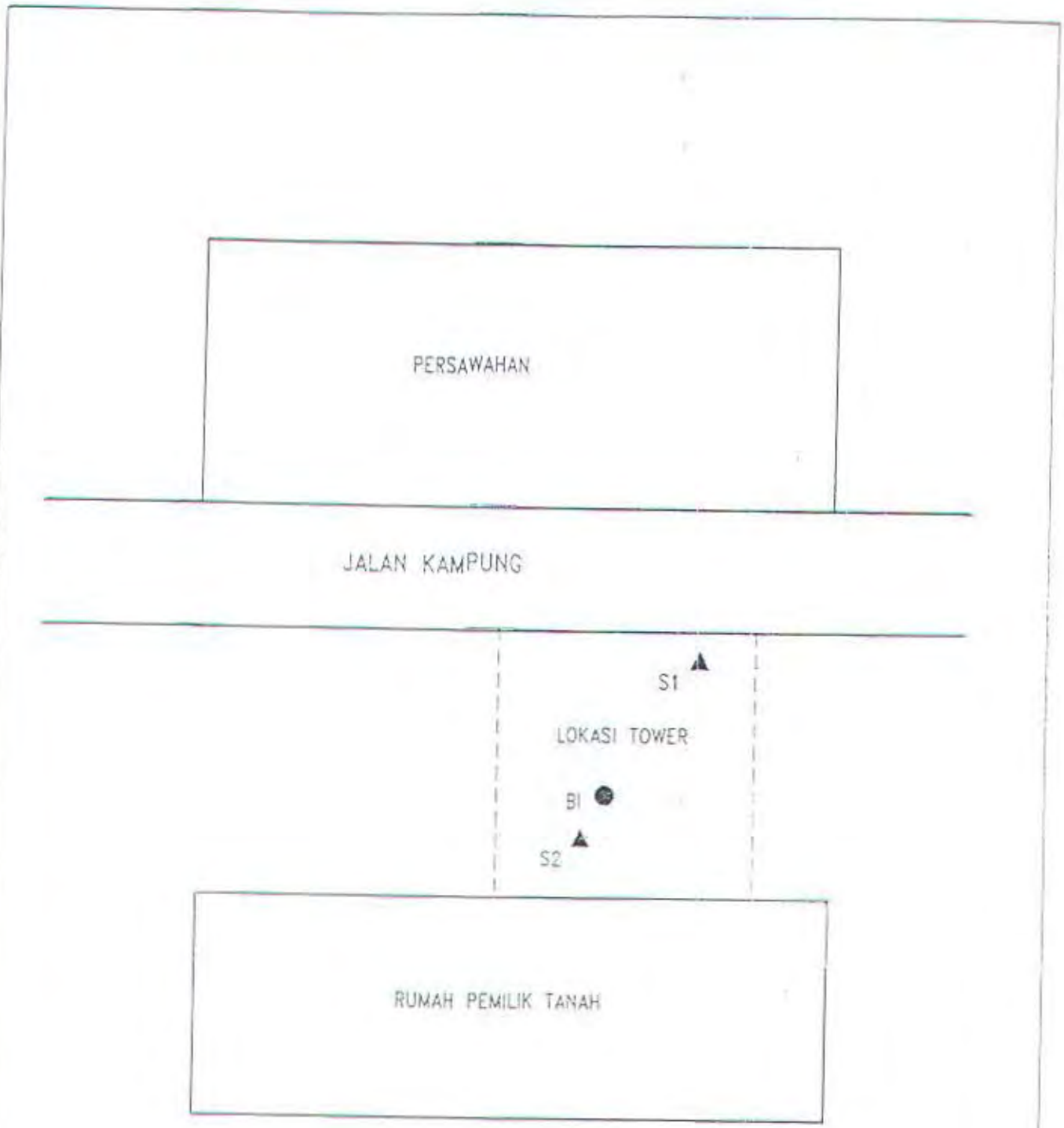
150 m Self Supporting Tower			Digambar	Sist. Eng.	User	Disetujui
Keterangan	NO LBR	1 OF 2	05-10-03	05-10-03		
	NO GBR	003/TX.SE/YOG/10-03				
	SKALA	No Scale	Dedes T. P	Dedes T. P	Subiyanto Z	J Balonso

DATA TANAH

PETA SITUASI

PROJECT : TOWER MOBILE - 8

LOCATION : SUKOHARJO JAWA TENGAH



KETIRA - ENGINEERING
CONSULTANTS

BORING LOG

PROJECT	: TOWER M.B	DATE	: 22/1/04
LOCATION	: SUKOHARJO JAWA TENGAH	BORING	: BI

DEPTH (m)	SYMBOL	SOIL DESCRIPTION	NOTE
0.50			MAT : -0.60m
1.00		Lempung kelanauan, medium stiff, berwarna abu-abu	
1.50			
2.00			
2.50		Lanau kelempungan cadas muda, sedikit pasir halus, medium stiff, berwarna abu-abu kekuningan	
3.00			
3.50			
4.00		Stop bor 4.00m	
4.50			
5.00			
5.50			
6.00			
6.50			

LEGEND

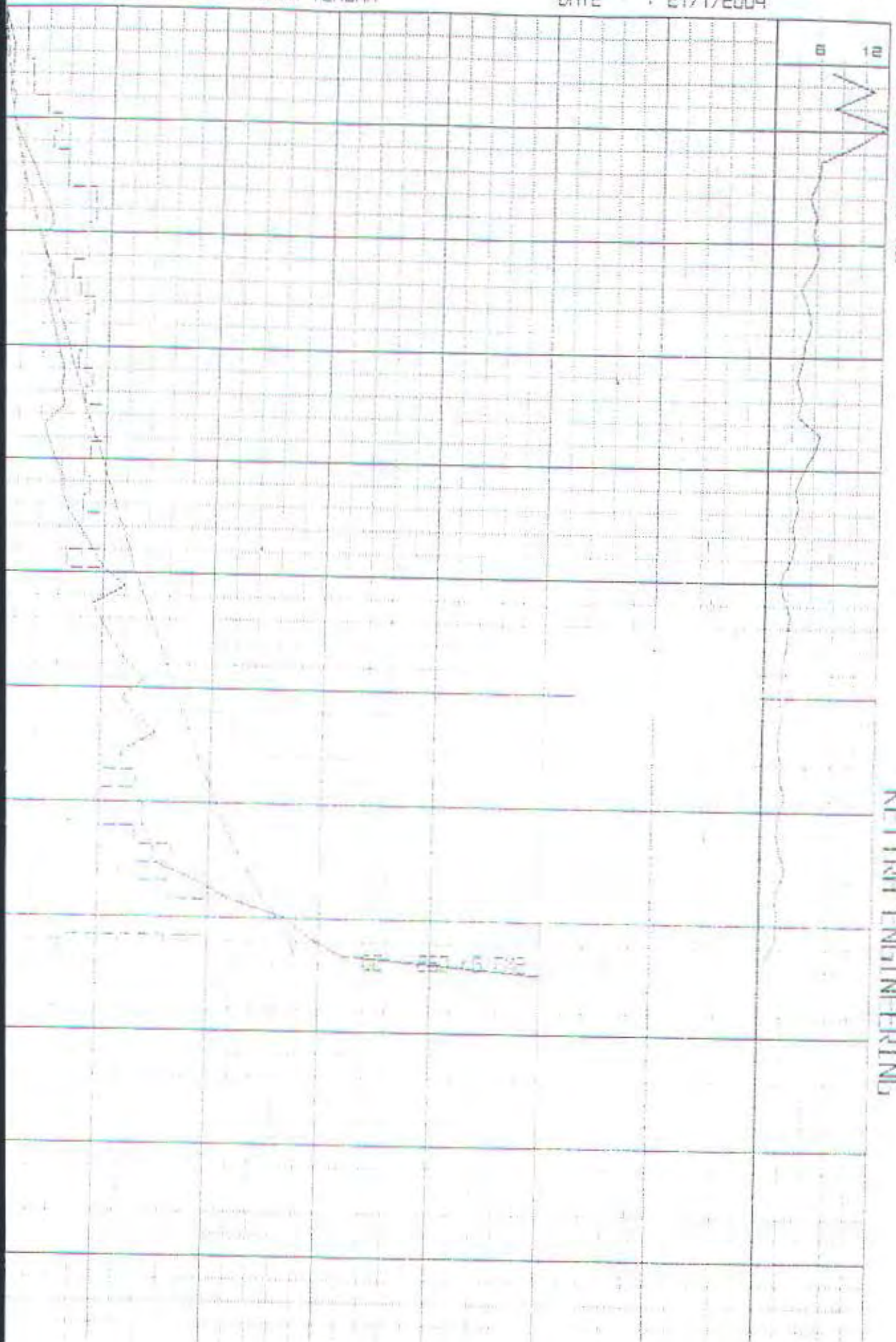
UNDISTURBED SAMPLE	CLAY	GRAVEL
ORGANIK	SILT	SAND

KETIRA ENGINEERING

PROJECT : TOWER M.8
POINT : S1
LOCATION: SUKOHARJO - JAWA TENGAH

TEST NO :
TEST BY : ENDANG
DATE : 21/1/2004

CPT



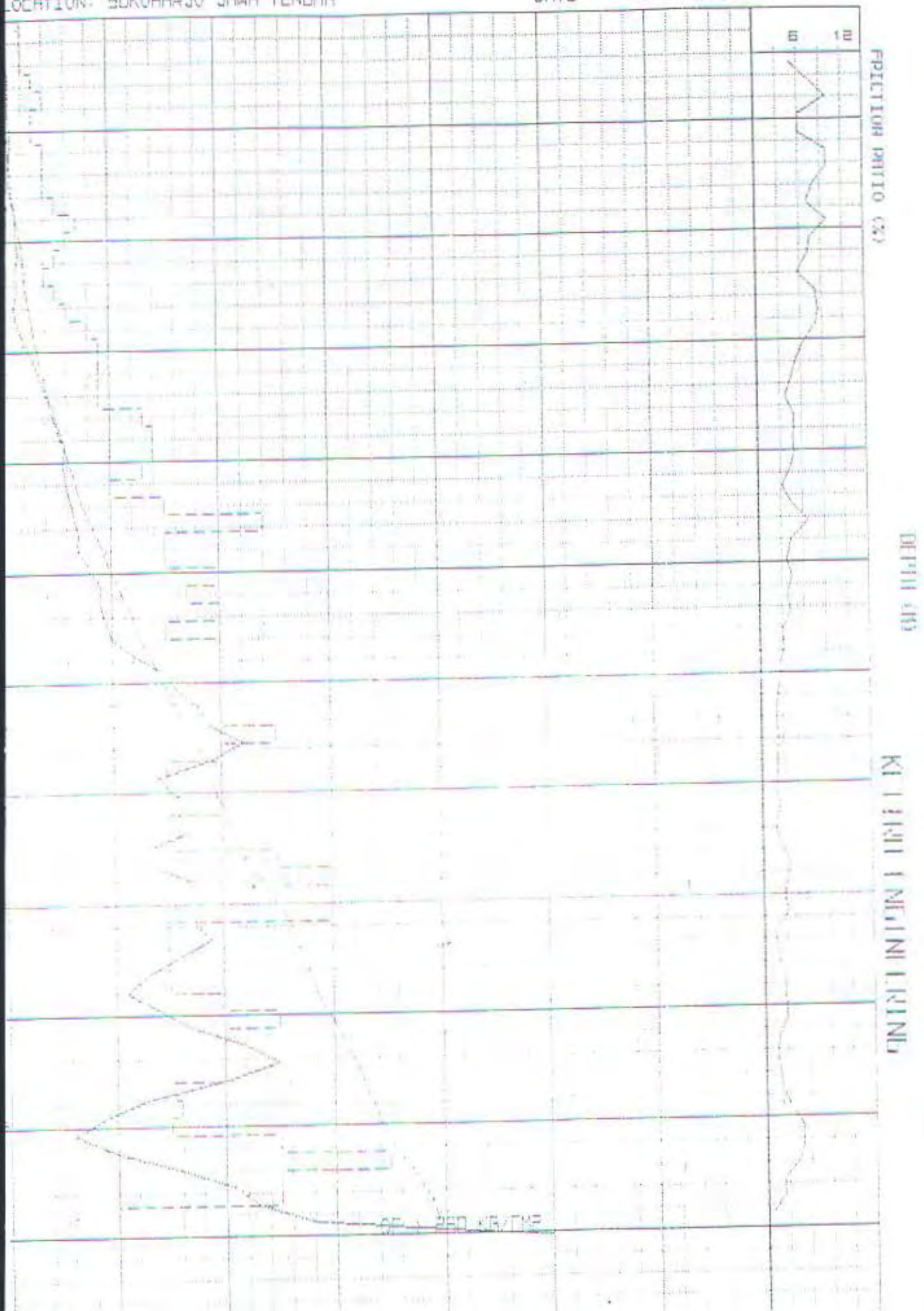
KETIRA ENGINEERING

KETIRA ENGINEERING

PROJECT : TOWER M.8
POINT : S2
LOCATION: SUKOHARJO JAWA TENGAH

TEST NO :
TEST BY : ENDANG
DATE : 21/1/2004

CPT



ROJECT : TOWER MOBILE-8

OCATION : SUKOHARJO - JAWA TENGAH

KETIRA CONSULTANT

SUMMARY OF LABORATORY TEST RESULT

ample No.					
ore Hole No.			B I	B I	
ample Depth		in M	1.50 - 2.00	3.50 - 4.00	
Gradation	Gravel	in %			
	Sand	in %	11.37	52.61	
	Silt	in %	40.88	24.29	
	Clay	in %	47.75	23.10	
iquid Limit		in %	83.00		
lastic Limit		in %	36.08		
lasticity index		in %	46.92		
hrinkage Limit		in %			
pecific Grafity			2.628	2.673	
ry Density		in t/m3	1.173	1.364	
oefficient of Permeability		in cm/sec			
State	Water Content	in %	41.03	34.11	
	Wet Density	in t/m3	1.654	1.829	
	Void Ratio		1.241	0.960	
	Porosity		0.554	0.490	
	Degree of Saturation	in %	86.90	94.98	
Compr.	Compressive strength	in Kg/cm2			
	Sensitivity				
Test	Cohesion	in Kg/cm2	0.88		
	Cohesion Eff.	in Kg/cm2	0.85		
	Angle of internal friction	in °	7.5		
	Angle of internal friction eff.	in °	9.0		
	Cohesion	in Kg/cm2		0.12	
	Angle of internal friction	in °		20.0	
	Coeff. of consolidation	in cm2/sec	7.108×10^{-4}	8.406×10^{-4}	
	Compression index		0.25	0.30	
tion	Optimum Moisture Content	in %			
	Max Dry Density	in t/m3			
	Sample Condition				
	Test Condition				
	Water Content				
	Dry Density				
	C B R				

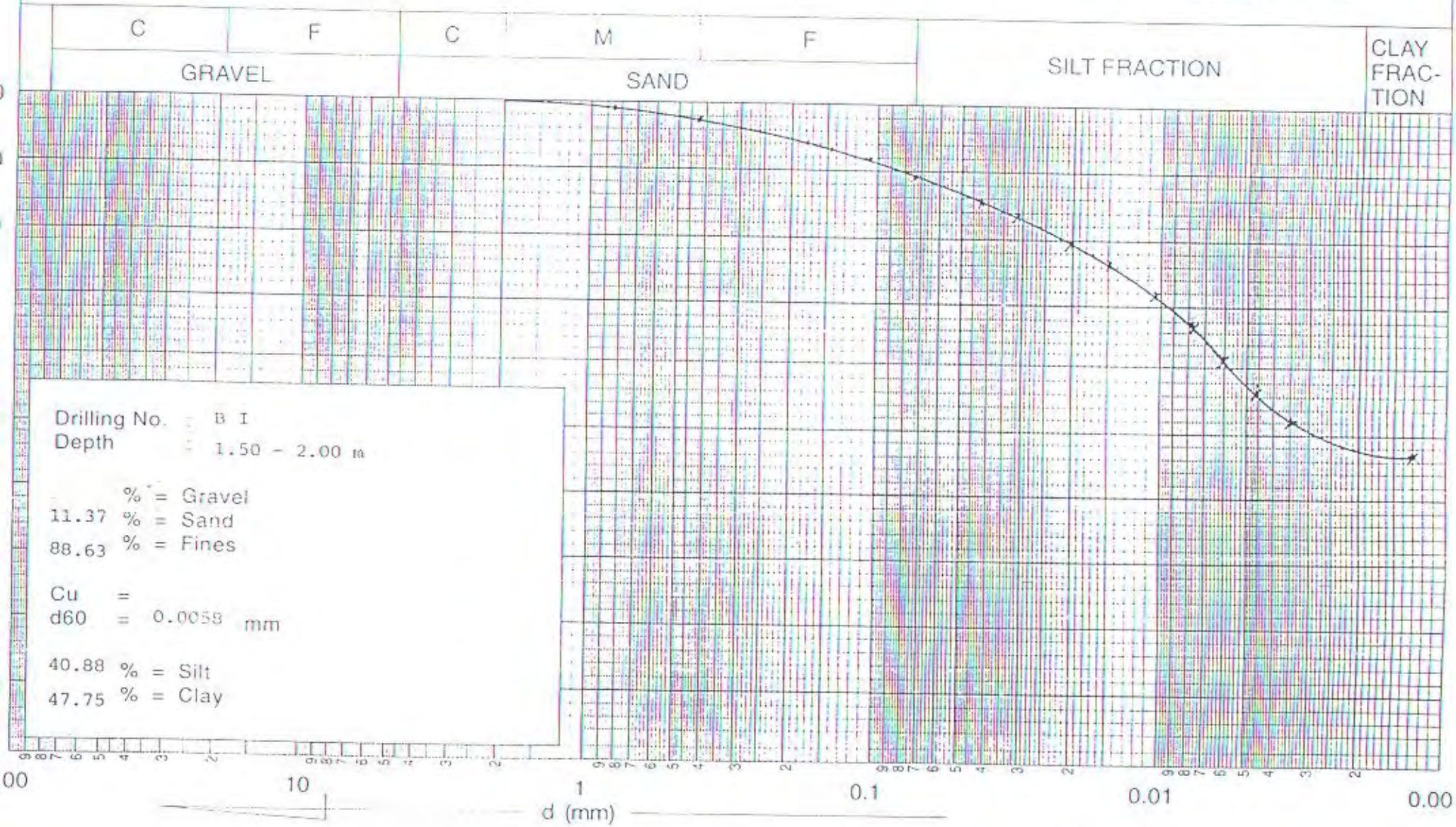
marks :

LOCATION : SUKOHARJO - JAWA TENGAH

KETIRA ENGINEERING CONSULTANTS

U.S. STANDARD

GRANSIZE DISTRIBUTION CURVE



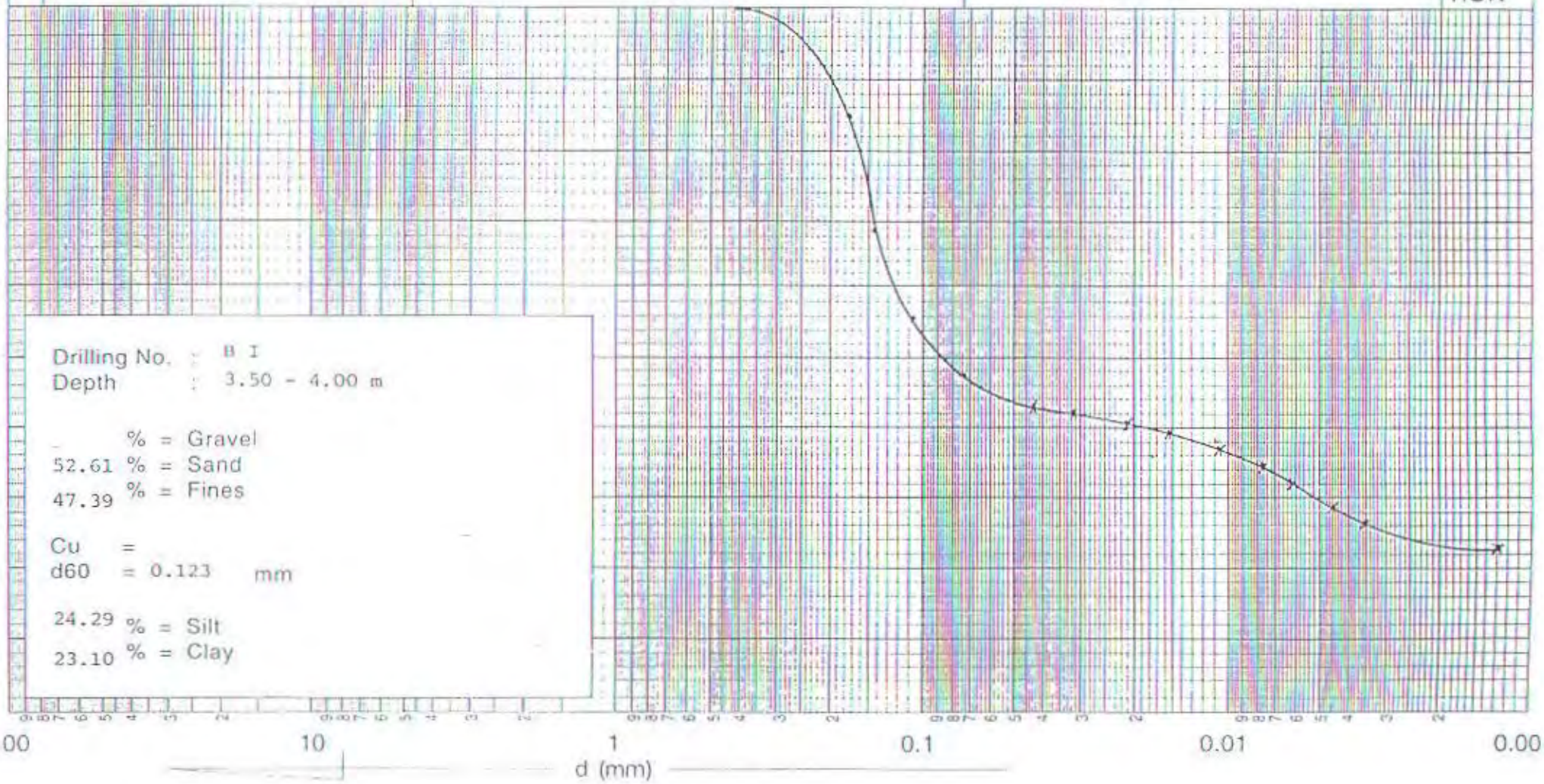
LOCATION : SUKOHARJO - JAWA TENGAH

CONSULTANTS

U.S. STANDARD

GRANSIZE DISTRIBUTION CURVE

C	F	C	M	F		
GRAVEL		SAND			SILT FRACTION	CLAY FRAC-TION



Drilling No. : B I
Depth : 3.50 - 4.00 m

% = Gravel
52.61 % = Sand
47.39 % = Fines

Cu =
d60 = 0.123 mm

24.29 % = Silt
23.10 % = Clay

100 10 1 0.1 0.01 0.00

d (mm)

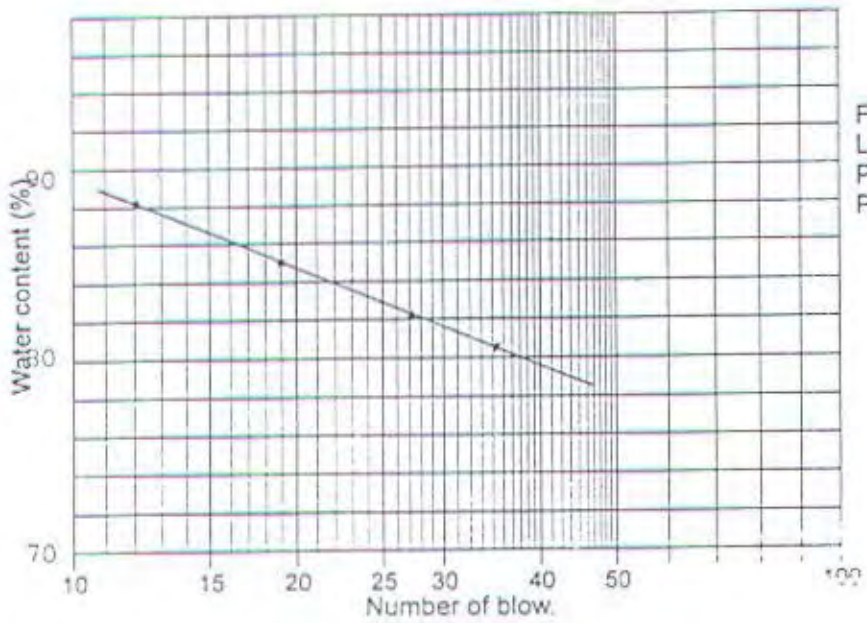
PROJECT : TOWER MOBILE-8

LOCATION : SUKOHARJO - JAWA TENCAH

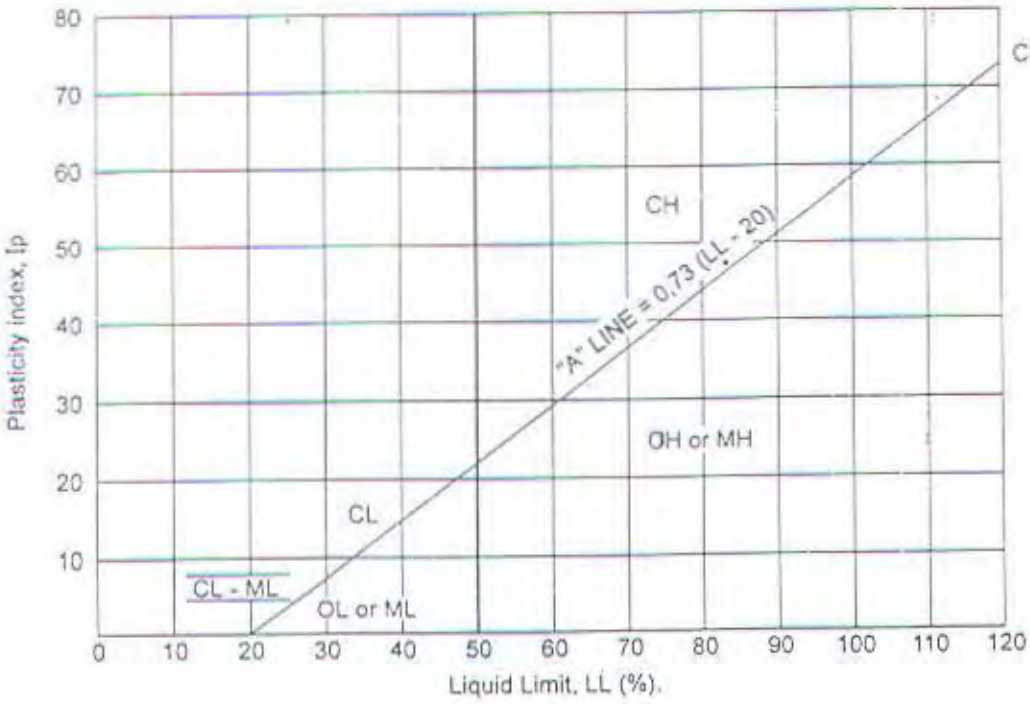
KETIRA ENGINEERING CONSULTANTS

ATTERBERG LIMITS

Drilling No. : B I
Depth : 1.50 - 2.00 m
Tested by : Daniel
Date : 03-02-04



Flow index, Fi =
Liquid Limit, LL = 83.00 %
Plastic Limit, PL = 36.08 %
Plasticity index (Ip) = 46.92 %



Classification : CH

CT : TOWER MOBILE-8

TION : SUKOHARJO - JAWA TENGAH

KETIRA CONSULTANT

Drilling No. : B I

Depth : 1.50 - 2.00 m

Tested by : Agus

Date : 03-02-04

Soil Type :

TRIAXIAL COMPRESSION TEST

Failure sketch

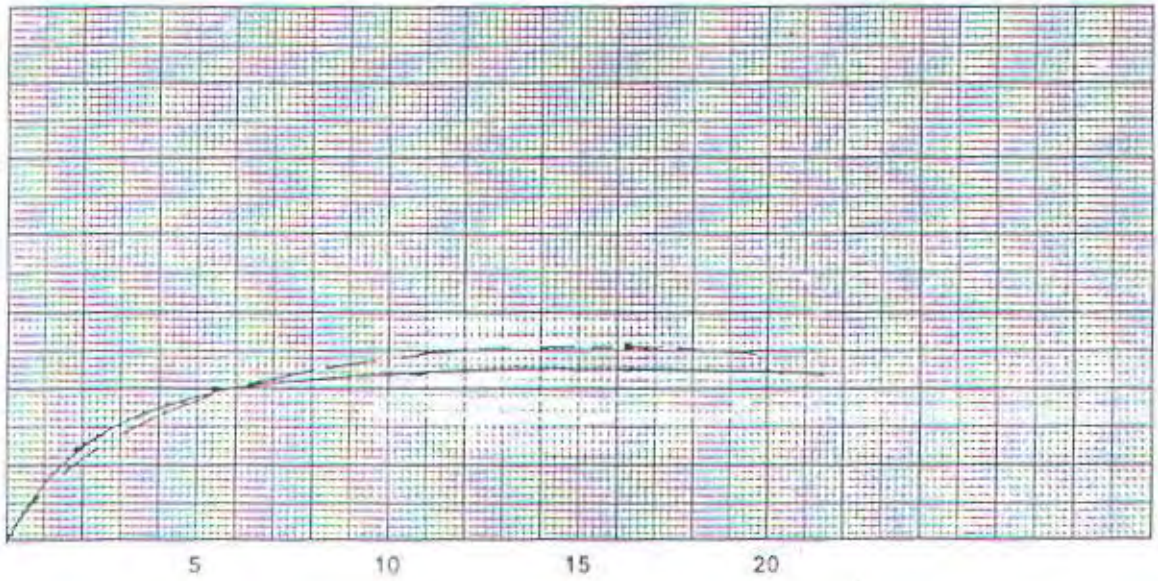
1. 

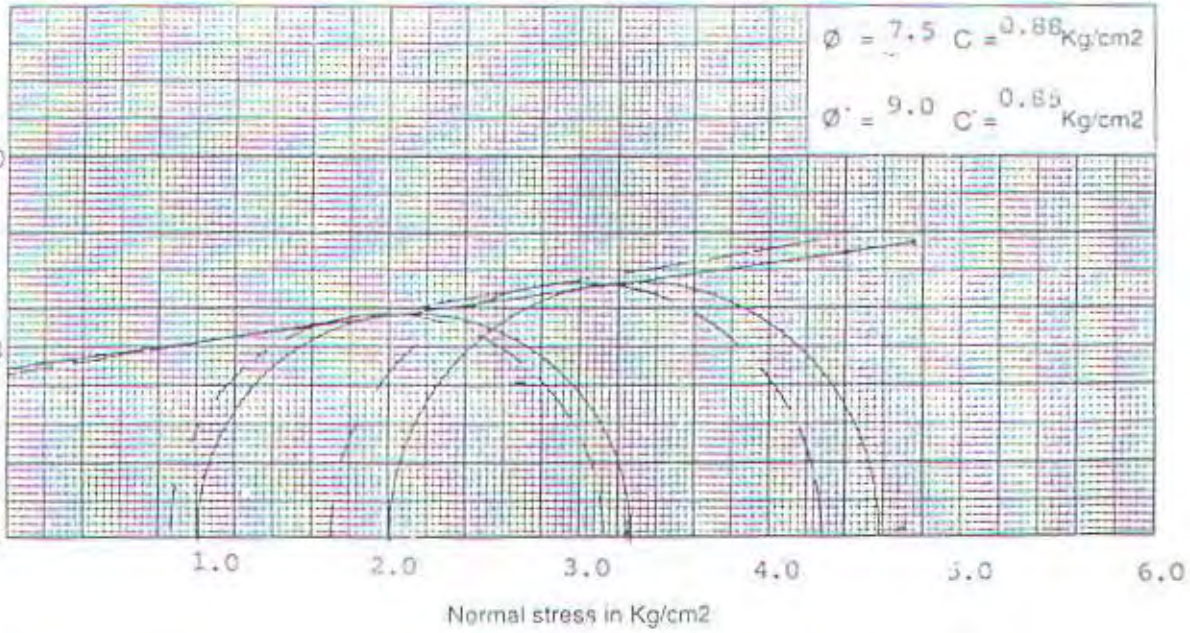
2. 

3. 

Test type

Test No.	γ t/m3	Wn %	γ d t/m3	Gs.	e	Sr. %	σ3 Kg/cm2	σt Kg/cm2	Curve symbol
1	1.627						1.0	3.264	———
2	1.657						2.0	4.582	— — —
3									— — —





OJECT : TOWER MOBILE-8

CATION : SUKOHARJO - JAWA TENGAH

KETIRA CONSULTANT

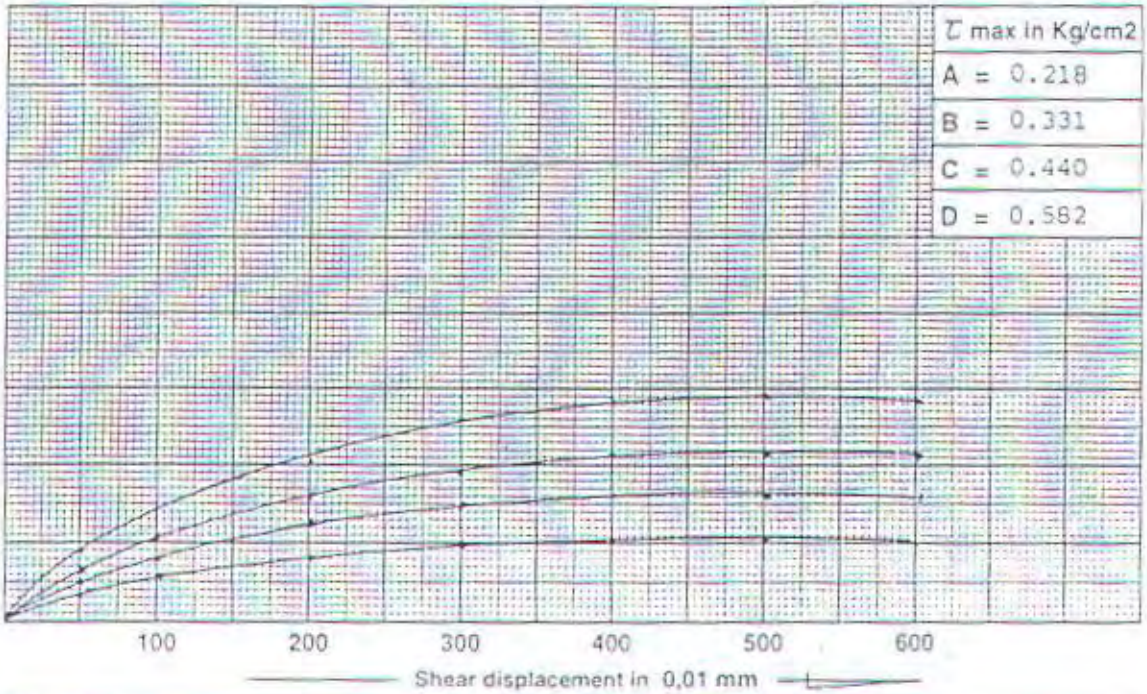
Drilling No. : B I

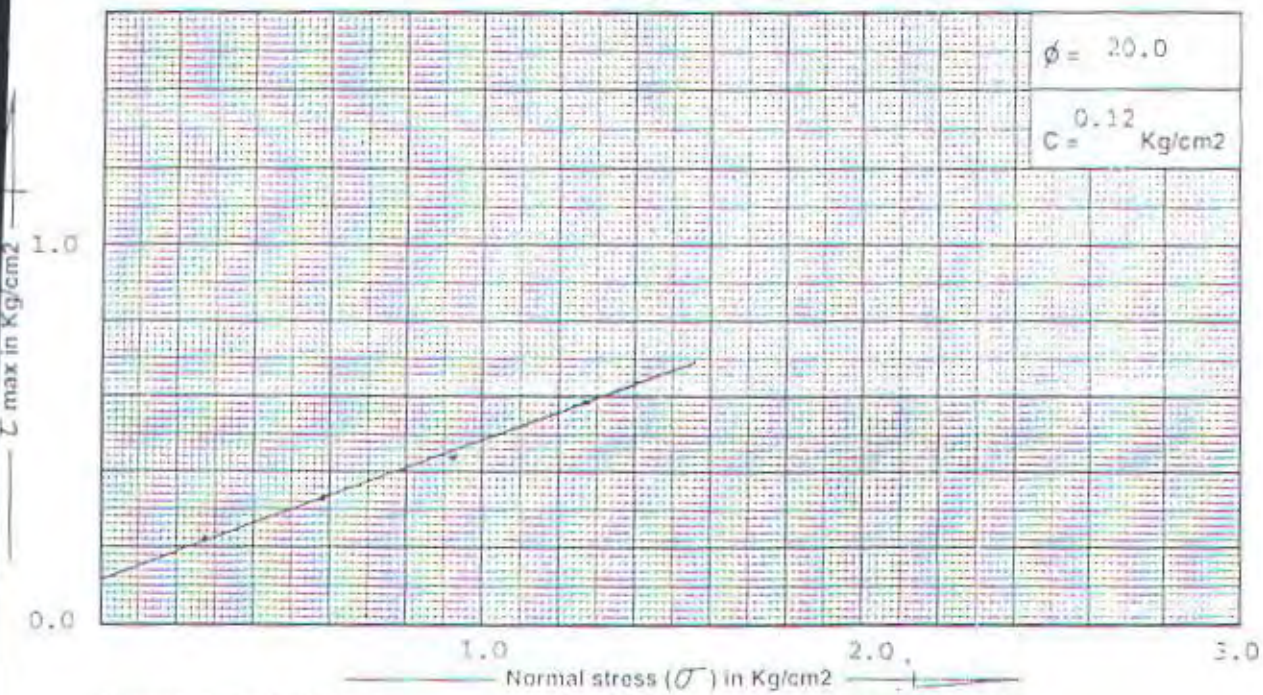
Depth : 3.50 - 4.00 m

Tested by : Dedy

Date : 03-02-04

DIRECT SHEAR TEST





Normal stress in Kg/cm2

A = 0.269

B = 0.577

C = 0.923

D = 1.269

Unit weight in t/m3

A = 1.815

B = 1.820

C = 1.817

D = 1.822

JECT : TOWER MOBILE-8

ATION : SUKOHARJO - JAWA TENGAH

KETIRA ENGINEERING CONSULTANTS

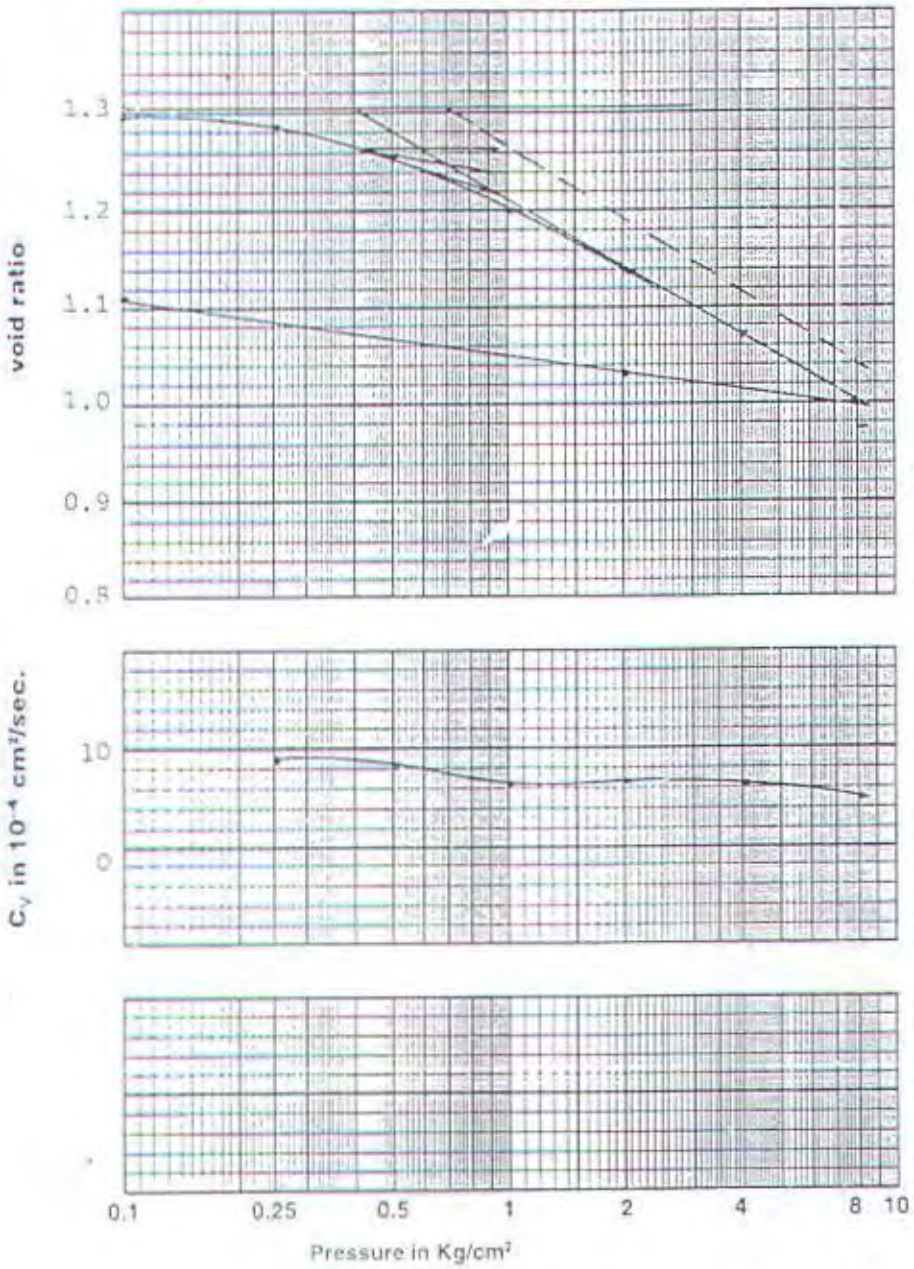
Drilling No. : B I

Depth : 1.50 - 2.00 m

Tested by : Rukmana

Date : 04-01-04

CONSOLIDATION TEST



Max. Precompression	: 0.7 Kg/cm²		Sample area	= 31.42	cm²
Insitu void ratio, E_o	: 1.306		Sample height	= 1.95	cm
Coeff. Consolidation, C_v	: 7.108	x 10^{-4} cm²/sec			
Compression index, Cc	: 0.25				

JECT : TOWER MOBILE-8

ATION : SUKOHARJO - JAWA TENGAH

KETIRA ENGINEERING CONSULTANTS

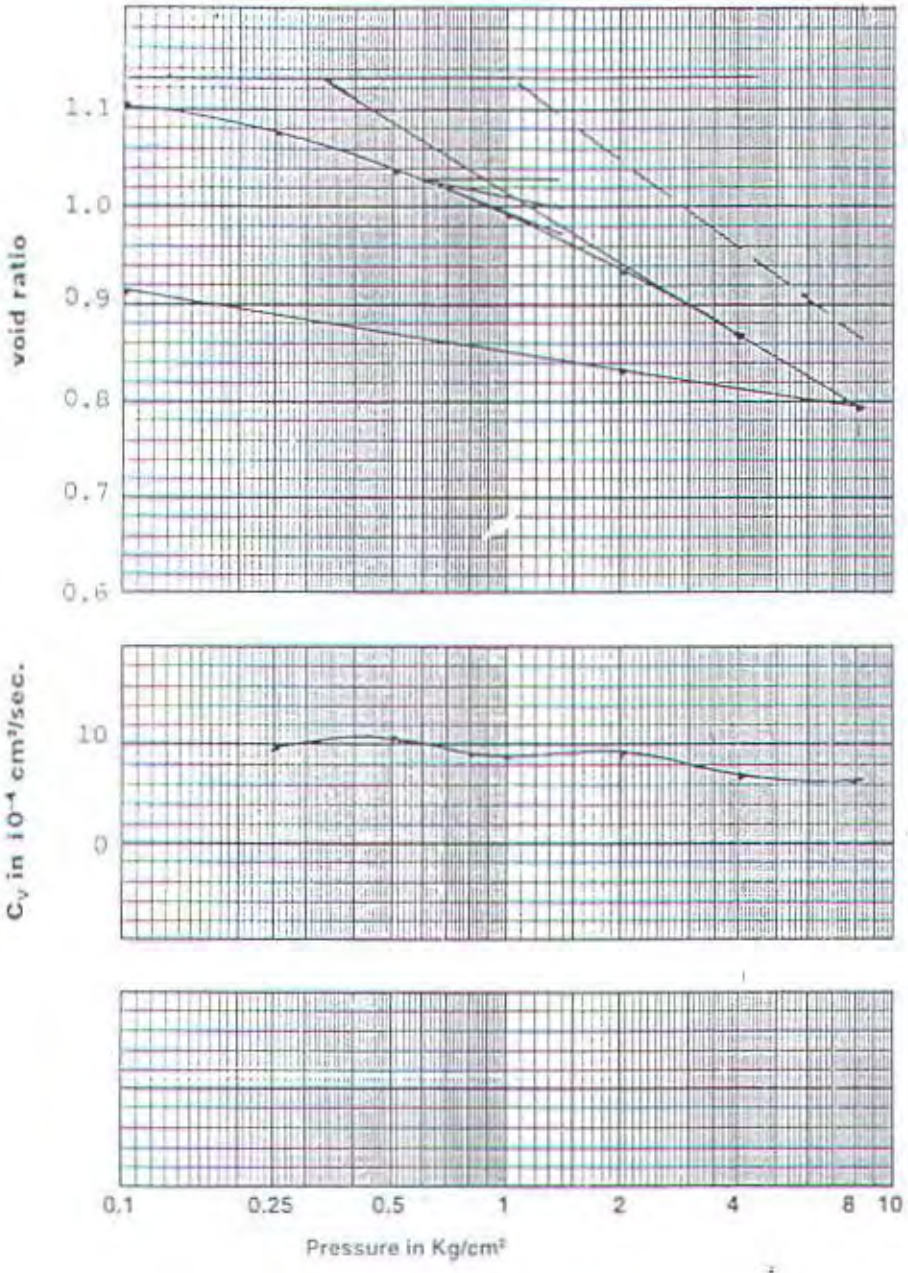
Drilling No. : B I

Depth : 3.50 - 4.00 m

Tested by : Rukmana

Date : 04-02-04

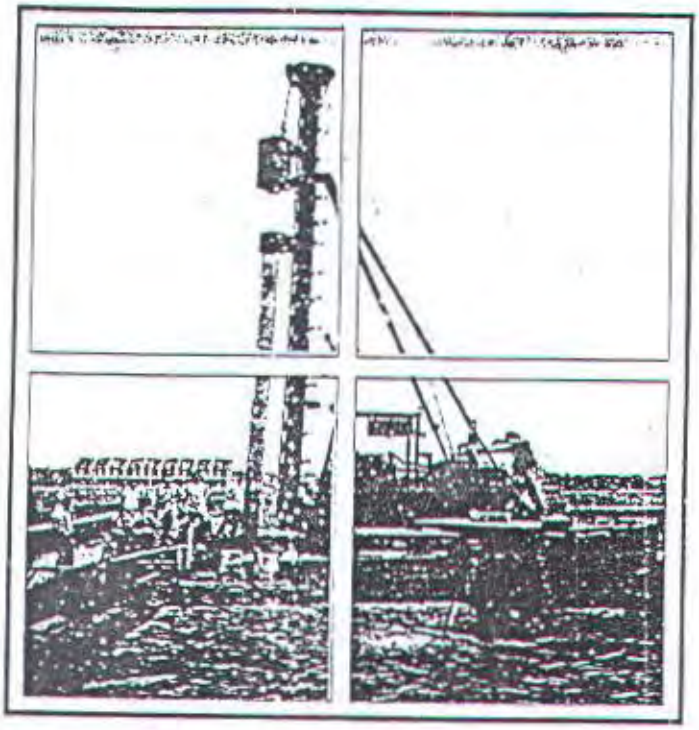
CONSOLIDATION TEST



Max. Precompression	: 1.05	Kg/cm²	Sample area	= 31.669	cm²
Insitu void ratio, E_o	: 1.130		Sample height	= 2.05	cm
Coeff. Consolidation, C_v	: 8.406	x 10^{-4} cm²/sec			
Compression index, Cc	: 0.30				

DATA TIANG PANCANG

MINIPILE



JHS

Satisfaction Through Quality

JHS MINIPILE SYSTEM

ni driven pile is still the most popular foundation for low rise building (up to about 4 stories), nich carry 20 - 40 tonnes load.

ere are 4 (four) types of JHS's minipile:

Triangular Pile Δ 28 mm for 20 - 25 tonnes bearing capacity load.
Triangular Pile Δ 29,5 mm for 25 - 30 tonnes bearing capacity load.
Triangular Pile Δ 32 mm for 35 - 40 tonnes bearing capacity load.
Square Pile 200 x mm 200 for 30 - 35 tonnes bearing capacity load.

All product is produced by high strength concrete fc'=41.5 MPa (K500) class, which product by strike quality control. Especially for PC Square Pile, prestressed reinforcement is used to given more strength than pile only use rebar reinforcement.

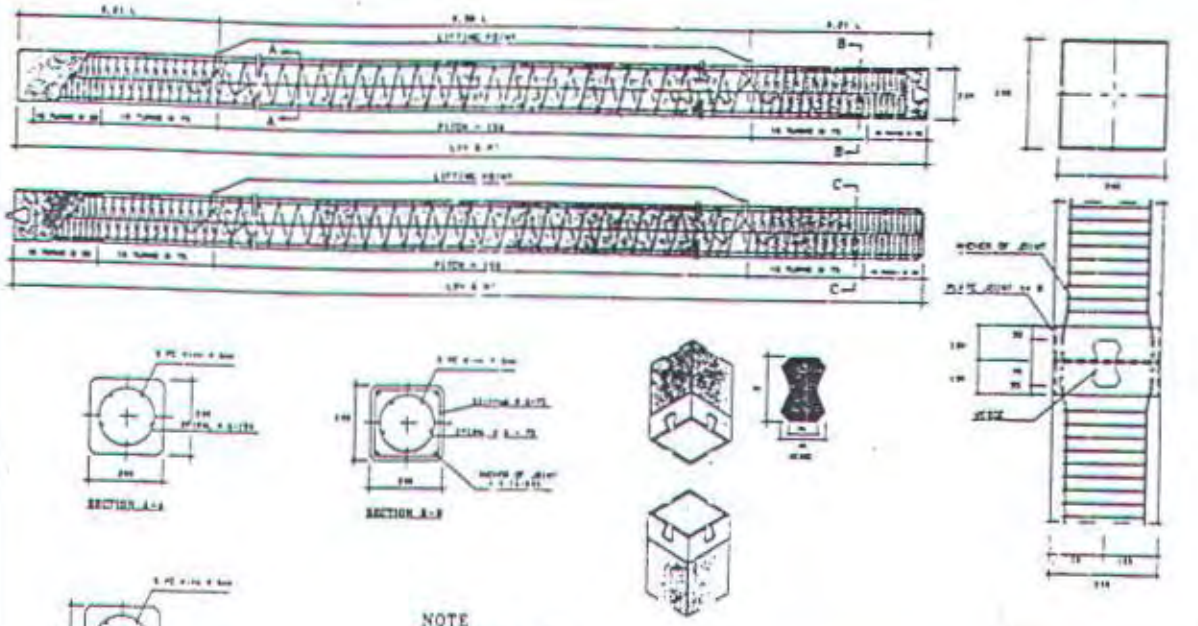
Pile produced with two standard segmental, 3 m and 6 m. With our production capacity 1000 m'/day, we have ready stock everyday, and can immediately support every project Drop Hammer 1.5 ton is used to driving pile.

JHS Minipile System is also give standard economical price. The price is only based to unit length of pile which include material, driving, and welding.

So with these advantages of JHS Minipile System, you can get best solution for your low rise building foundation.

JHS PILE STRENGTH STANDARD SPECIFICATION

	b	h	Area	Zb	No of Strand	Type of Strand	UTS	Eff Prestress	Ult Normal Cap		Shear Cap	Torsion Cap	Crack Moment	Bending Cap Ult		Estimate of Bearing Capacity
									Comp	Tension				P=0	Max	
	mm	mm	mm2	mm3			kN	MPa	kN	kN	kN	kNm	kN m	kN m	kN m	
	280	249	34860	723345	3	ber D16	0	0	923.00	216.00	39.90	6.30	2.97	14	27	20 - 25 ton
	295	255	37613	799166	3	ber D16	0	0	989.00	216.00	63.01	7.16	3.28	15	31	25 - 30 ton
	310	277	44320	1023053	3	ber D19	0	0	1196.00	306.00	78.09	9.15	4.19	22	44	35 - 40 ton
0	200	200	40000	1333333	5	dia 6 mm	44.1	3.03	827.00	174.00	79.74	2.58	9.88	14	25	30 - 35 ton
0	200	200	40000	1333333	6	dia 6 mm	44.1	3.64	835.00	209.00	82.78	2.58	10.76	16	26	30 - 35 ton



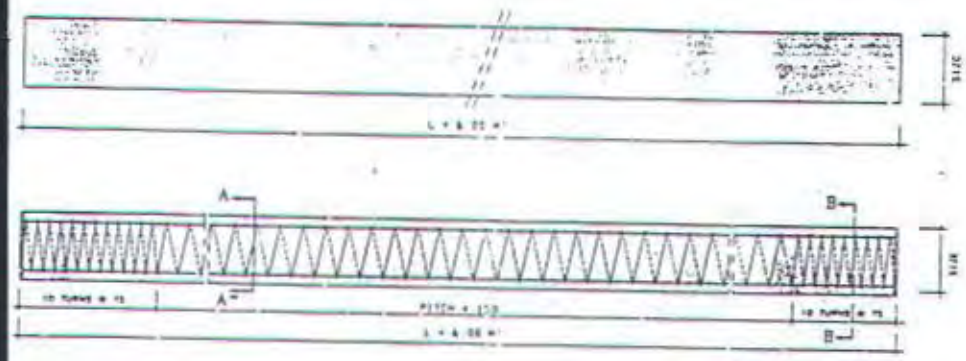
NOTE

- CONCRETE 500 Kg/Cm2
- PC WIRE dia 5mm JIS G 3536
- MILD STEEL U24
- DRAWING NOT TO SCALE

DRAWING
Prestressed Small Size Pile 200x200 = 6+6m

PT.JHS PILING SYSTEM

" TRIPILE " TRIANGULAR SEGMENTAL PRECAST CONCRETE PILE



NOTES :

- CONCRETE 500 Kg/Cm2 (at 28 days)
- REINFORCED BARS BTD 40
- COVER PLATE t= 10mm

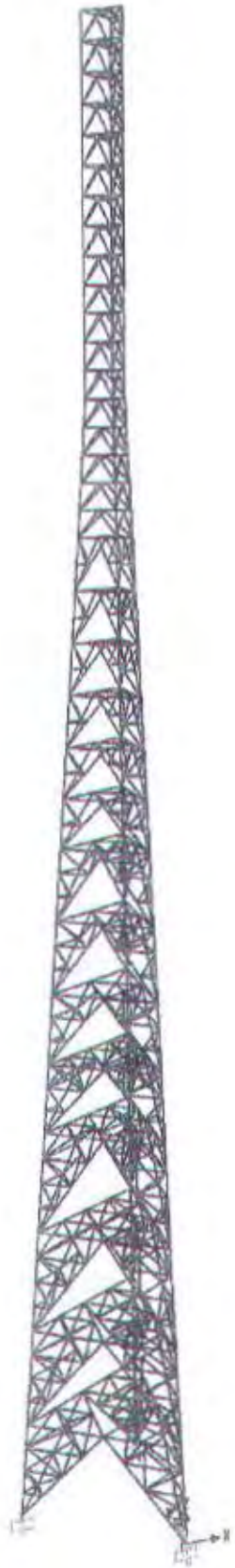
SECTION A-A

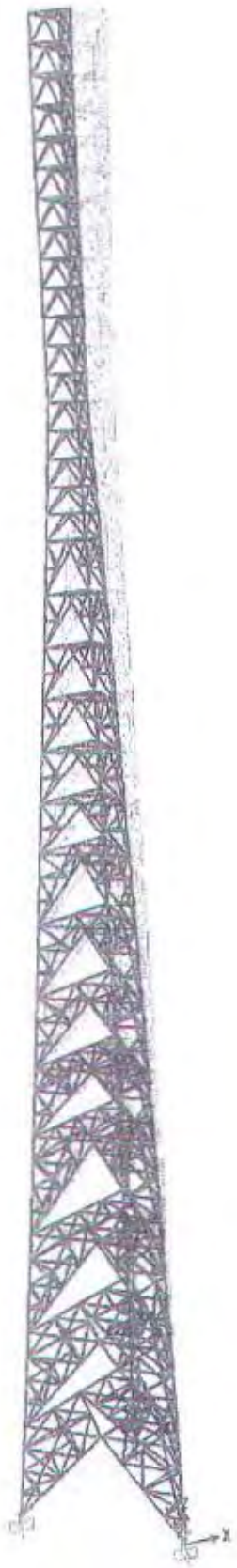
SECTION B-B

DRAWING : TRIPILE

PT.JHS PILING SYSTEM

DATA TOWER EXISTING




X

MATERIAL LIST PROYEK PEMBANGUNAN TOWER RCTI
SELF SUPORTING TOWER 120 M - YOGYAKARTA

SEGMENT	PCS	MEMBER	PROFIL	Weight(Kg)	TOTAL BERAT
A	3	BRC	L70*70*7	16.5	54.45
A	3	BRC	L70*70*7	16.5	54.45
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	3	BRC	L70*70*7	16.4	54.12
A	6	BRC	L80*80*8	20.4	134.64
A	6	BRC	L80*80*8	19.1	126.06
A	3	HOR	L60*60*6	10.6	50.48
A	3	HOR	L60*60*6	10.6	50.48
A	3	HOR	L60*60*6	10.6	50.48
A	3	HOR	L60*60*6	10.6	50.48
A	3	HOR	L60*60*6	10.6	50.48
A	3	HOR	L60*60*6	10.6	50.48
A	3	HOR	L60*60*6	10.6	50.48
A	1	HOR	[250*90*9*9	97.6	107.36
A	1	HOR	[250*90*9*9	97.6	107.36
A	1	HOR	[250*90*9*9	97.6	107.36
A	1	HOR	[250*90*9*9	97.6	107.36
A	1	HOR	[250*90*9*9	97.6	107.36
A	1	HOR	[250*90*9*9	97.6	107.36
A	1	IBR	L50*50*5	5.1	5.61
A	2	IBR	L50*50*5	5.1	11.22
A	1	IBR	L50*50*5	5.1	5.61
A	2	IBR	L50*50*5	5.1	11.22
A	1	IBR	L50*50*5	5.1	5.61
A	2	IBR	L50*50*5	5.1	11.22
A	1	IBR	L50*50*5	5.1	5.61
A	2	IBR	L50*50*5	5.1	11.22
A	1	IBR	L50*50*5	5.1	5.61
A	2	IBR	L50*50*5	5.1	11.22
A	1	IBR	L50*50*5	5.1	5.61
A	2	IBR	L50*50*5	5.1	11.22
A	1	IBR	L50*50*5	5.1	5.61
A	2	IBR	L50*50*5	5.1	11.22
A	1	IBR	[250*90*9*9	204.5	224.95
A	4	KOPPEL	L120*120*12	17.3	76.12
A	2	LEG	SCH 141X6,6	90	198.00
A	1	LEG	SCH 141X6,6	88.4	97.24
A	2	LEG	SCH 141X6,6	201.9	444.18
A	1	LEG	SCH 141X6,6	195.8	215.38
A	2	LEG	SCH 141X6,6	201.9	444.18
A	1	LEG	SCH 141X6,6	195.8	215.38
A	2	LEG	SCH 141X6,6	145.7	320.54
A	1	LEG	SCH 141X6,6	141.2	155.32
A	8	PLAT	PLT4*131	1,6	14.08

MATERIAL LIST PROYEK PEMBANGUNAN TOWER RCTI
SELF SUPORTING TOWER 120 M - YOGYAKARTA

SEGMENT	PCS	MEMBER	PROFIL	Weight(Kg)	TOTAL BERAT
B	3	BRC	L70*70*7	21.6	71.28
B	3	BRC	L70*70*7	21.6	71.28
B	3	BRC	L70*70*7	21.1	69.63
B	3	BRC	L70*70*7	21.1	69.63
B	3	BRC	L70*70*7	20.4	67.32
B	3	BRC	L70*70*7	20.4	67.32
B	3	BRC	L70*70*7	19.8	65.34
B	3	BRC	L70*70*7	19.8	65.34
B	3	BRC	L70*70*7	19.1	63.03
B	3	BRC	L70*70*7	19.1	63.03
B	3	BRC	L70*70*7	18.5	61.05
B	3	BRC	L70*70*7	18.5	61.05
B	3	BRC	L70*70*7	17.9	59.07
B	3	BRC	L70*70*7	17.9	59.07
B	3	BRC	L70*70*7	17.3	57.09
B	3	BRC	L70*70*7	17.3	57.09
B	3	BRC	L70*70*7	16.3	53.79
B	3	BRC	L70*70*7	16.3	53.79
B	1	HOR	L70*70*7	24.9	37.25
B	1	HOR	L70*70*7	24.9	37.25
B	1	HOR	L70*70*7	24.9	37.25
B	1	HOR	L70*70*7	16.6	24.83
B	1	HOR	L70*70*7	16.6	24.83
B	1	HOR	L70*70*7	16.6	24.83
B	1	HOR	L70*70*7	15.7	23.49
B	1	HOR	L70*70*7	15.7	23.49
B	1	HOR	L70*70*7	15.7	23.49
B	1	HOR	L70*70*7	14.9	22.29
B	1	HOR	L70*70*7	14.9	22.29
B	1	HOR	L70*70*7	14.9	22.29
B	1	HOR	L70*70*7	14	20.94
B	1	HOR	L70*70*7	14	20.94
B	1	HOR	L70*70*7	14	20.94
B	1	HOR	L70*70*7	13.1	19.60
B	1	HOR	L70*70*7	13.1	19.60
B	1	HOR	L70*70*7	13.1	19.60
B	1	HOR	L70*70*7	12.3	18.40
B	1	HOR	L70*70*7	12.3	18.40
B	1	HOR	L70*70*7	12.3	18.40
B	1	HOR	L70*70*7	11.4	17.05
B	1	HOR	L70*70*7	11.4	17.05
B	1	HOR	L70*70*7	11.4	17.05
B	1	HOR	L70*70*7	15.1	22.59
B	1	HOR	L70*70*7	15.1	22.59
B	1	HOR	L70*70*7	15.1	22.59
B	3	IBR	L50*50*5	8.5	28.05
B	3	IBR	L50*50*5	8.1	26.73
B	3	IBR	L50*50*5	7.7	25.41
B	3	IBR	L50*50*5	7.2	23.76
B	3	IBR	L50*50*5	6.8	22.44
B	3	IBR	L50*50*5	6.4	21.12
B	3	IBR	L50*50*5	5.9	19.47
B	3	IBR	L50*50*5	5.4	17.82
B	1	IBR	L50*50*5	4.9	5.39

MATERIAL LIST PROYEK PEMBANGUNAN TOWER RCTI
SELF SUPORTING TOWER 120 M - YOGYAKARTA

SEGMENT	PCS	MEMBER	PROFIL	Weight(Kg)	TOTAL BERAT
B	1	IBR	L50*50*5	4.9	5.39
B	1	IBR	L50*50*5	4.9	5.39
B	2	LEG	SCH 169X7,1	248.8	547.36
B	1	LEG	SCH 169X7,1	242.6	266.86
B	2	LEG	SCH 169X7,1	240.1	528.22
B	1	LEG	SCH 169X7,1	233.9	257.29
B	2	LEG	SCH 169X7,1	211.7	465.74
B	1	LEG	SCH 169X7,1	206.4	227.04
B	2	LEG	SCH 169X7,1	96.1	211.42
B	1	LEG	SCH 169X7,1	94.4	103.84
C	3	BRC	L80*80*8	42.8	141.24
C	3	BRC	L80*80*8	42.8	141.24
C	1	HOR	L70*70*7	26.1	39.05
C	1	HOR	L70*70*7	26.1	39.05
C	1	HOR	L70*70*7	26.1	39.05
C	3	HY-1	L50*50*5	4.1	13.53
C	3	IBR	L50*50*5	8.9	29.37
C	2	LEG	SCH 220X7,8	319.9	703.78
C	1	LEG	SCH 220X7,8	313.7	345.07
C	6	RD-6	L50*50*5	8	52.80
C	6	RD-7	L50*50*5	4.1	27.06
D	3	BRC	L80*80*8	44.3	146.19
D	3	BRC	L80*80*8	44.3	146.19
D	1	HOR	L70*70*7	28.3	42.34
D	1	HOR	L70*70*7	28.3	42.34
D	1	HOR	L70*70*7	28.3	42.34
D	3	HY-1	L50*50*5	4.4	14.52
D	3	IBR	L60*60*6	13.9	45.87
D	2	LEG	SCH 220X7,8	328.8	723.36
D	1	LEG	SCH 220X7,8	322.6	354.86
D	6	RD-6	L50*50*5	8.1	53.46
D	6	RD-7	L50*50*5	4.5	29.70
E	3	BRC	L80*80*8	45.8	151.14
E	3	BRC	L80*80*8	45.8	151.14
E	1	HOR	L70*70*7	30.8	46.08
E	1	HOR	L70*70*7	30.8	46.08
E	1	HOR	L70*70*7	30.8	46.08
E	3	HY-1	L50*50*5	4.6	15.18
E	3	IBR	L60*60*6	15.1	49.83
E	6	RD-6	L50*50*5	8.3	54.78
E	6	RD-7	L50*50*5	4.9	32.34
F	3	BRC	L80*80*8	47.4	156.42
F	3	BRC	L80*80*8	47.4	156.42
F	1	HOR	L100*100*10	16.6	50.76
F	1	HOR	L100*100*10	16.6	50.76
F	2	HOR	L100*100*10	16.6	101.53
F	2	HOR	L100*100*10	16.6	101.53
F	3	HY-1	L50*50*5	5.3	17.49
F	3	IBR	L60*60*6	16.4	54.12
F	40	KOPPEL	L50*50*5	0.8	35.20
F	3	KOPPEL	L50*50*5	1.1	3.63
F	2	LEG	SCH 267.4x9.3	318.7	981.60
F	1	LEG	SCH 267.4x9.3	312.6	481.40
F	6	RD-6	L50*50*5	8.6	56.76

MATERIAL LIST PROYEK PEMBANGUNAN TOWER RCTI
SELF SUPORTING TOWER 120 M - YOGYAKARTA

SEGMENT	PCS	MEMBER	PROFIL	Weight(Kg)	TOTAL BERAT
F	6	RD-7	L50*50*5	5.3	34.98
G	3	BRC	L80*80*8	48.9	161.37
G	3	BRC	L80*80*8	48.9	161.37
G	1	HOR	L100*100*10	32	97.86
G	3	HOR	L100*100*10	3.6	33.03
G	1	HOR	L100*100*10	32	97.86
G	1	HOR	L100*100*10	32	97.86
G	3	HY-1	L50*50*5	5.7	18.81
G	3	IBR	L60*60*6	17.6	58.08
G	3	KOPPEL	L50*50*5	1.1	3.63
G	2	LEG	SCH 267.4x9.3	335	1,031.80
G	1	LEG	SCH 267.4x9.3	328.8	506.35
G	6	RD-6	L50*50*5	8.9	58.74
G	6	RD-7	L50*50*5	5.8	38.28
H	3	BRC	L80*80*8	50.2	165.66
H	3	BRC	L80*80*8	50.2	165.66
H	1	HOR	L100*100*10	57	100.32
H	3	HOR	L100*100*10	10.9	57.55
H	2	HOR	L100*100*10	57	200.64
H	3	HY-1	L50*50*5	6.1	20.13
H	3	IBR	L60*60*6	18.6	61.38
H	3	KOPPEL	L70*70*7	2.7	8.91
H	6	RD-6	L50*50*5	9.1	60.06
H	6	RD-7	L50*50*5	6.2	40.92
I	3	BRC	L80*80*8	9.3	30.69
I	3	BRC	L80*80*8	9.3	30.69
I	3	BRC	L80*80*8	57.3	189.09
I	3	BRC	L80*80*8	57.3	189.09
I	1	HOR	L100*100*10	57	100.32
I	2	HOR	L100*100*10	15.2	53.50
I	1	HOR	L100*100*10	15.2	26.75
I	2	HOR	L100*100*10	57	200.64
I	6	HY-1	L50*50*5	9.6	63.36
I	3	HY-2	L50*50*5	9.1	30.03
I	3	HY-3	L50*50*5	4.1	13.53
I	3	IBR	L60*60*6	19.8	65.34
I	9	KOPPEL	L70*70*7	2.7	26.73
I	2	LEG	SCH 267.4x9.3	331.5	1,021.02
I	1	LEG	SCH 267.4x9.3	325.3	500.96
I	6	RD-4	L50*50*5	11.2	73.92
I	6	RD-5	L50*50*5	9.1	60.06
I	6	RD-6	L50*50*5	8.1	53.46
I	6	RD-7	L50*50*5	4.2	27.72
J	3	BRC	L80*80*8	11.4	37.62
J	3	BRC	L80*80*8	11.4	37.62
J	3	BRC	L80*80*8	57.3	189.09
J	3	BRC	L80*80*8	57.3	189.09
J	1	HOR	L100*100*10	57.3	100.85
J	2	HOR	L100*100*10	21.6	76.03
J	1	HOR	L100*100*10	21.6	38.02
J	2	HOR	L100*100*10	57.3	201.70
J	6	HY-1	L60*60*6	14.1	93.06
J	3	HY-2	L60*60*6	14.1	46.53
J	3	HY-3	L50*50*5	4.6	15.18

MATERIAL LIST PROYEK PEMBANGUNAN TOWER RCTI
SELF SUPORTING TOWER 120 M - YOGYAKARTA

SEGMENT	PCS	MEMBER	PROFIL	Weight(Kg)	TOTAL BERAT
J	2	IBR	L60*60*6	21.7	47.74
J	1	IBR	L60*60*6	21.7	23.87
J	9	KOPPEL	L70*70*7	2.7	26.73
J	2	LEG	SCH 267.4x9.3	331.2	1,020.10
J	1	LEG	SCH 267.4x9.3	325	500.50
J	6	RD-4	L60*60*6	17	112.20
J	6	RD-5	L50*50*5	10	66.00
J	6	RD-6	L50*50*5	8.3	54.78
J	6	RD-7	L50*50*5	4.6	30.36
K	3	BRC	L80*80*8	13.4	44.22
K	3	BRC	L80*80*8	13.4	44.22
K	3	BRC	L80*80*8	57.3	189.09
K	3	BRC	L80*80*8	57.3	189.09
K	1	HOR	L100*100*10	66.8	73.48
K	1	HOR	L100*100*10	66.8	73.48
K	2	HOR	L100*100*10	66.8	146.96
K	2	HOR	L100*100*10	66.8	146.96
K	6	HY-1	L60*60*6	14.7	97.02
K	3	HY-2	L60*60*6	15.3	50.49
K	3	HY-3	L50*50*5	5.2	17.16
K	3	IBR	L60*60*6	23.3	76.89
K	6	KOPPEL	L70*70*7	2.7	17.82
K	3	KOPPEL	L90*90*9	3	9.90
K	2	LEG	SCH 267.4x9.3	330.3	1,017.32
K	1	LEG	SCH 267.4x9.3	324.2	499.27
K	6	RD-4	L70*70*7	24.4	161.04
K	6	RD-5	L50*50*5	10.8	71.28
K	6	RD-6	L50*50*5	8.5	56.10
K	6	RD-7	L50*50*5	5	33.00
L	3	BRC	L100*100*10	24	79.20
L	3	BRC	L100*100*10	24	79.20
L	3	BRC	L100*100*10	89.5	295.35
L	3	BRC	L100*100*10	89.5	295.35
L	1	HOR	L100*100*10	71.9	79.09
L	1	HOR	L100*100*10	71.9	79.09
L	2	HOR	L100*100*10	71.9	158.18
L	2	HOR	L100*100*10	71.9	158.18
L	6	HY-1	L60*60*6	15.2	100.32
L	3	HY-2	L60*60*6	16.3	53.79
L	3	HY-3	L50*50*5	5.3	17.49
L	3	IBR	L60*60*6	25.1	82.83
L	6	KOPPEL	L90*90*9	3	19.80
L	3	KOPPEL	L90*90*9	3	9.90
L	2	LEG	SCH 267.4x9.3	342	1,053.36
L	1	LEG	SCH 267.4x9.3	335.9	517.29
L	6	RD-4	L70*70*7	25.8	170.28
L	6	RD-5	L60*60*6	16.5	108.90
L	6	RD-6	L50*50*5	8.8	58.08
L	6	RD-7	L50*50*5	5.4	35.64
M	3	BRC	L100*100*10	62.9	207.57
M	3	BRC	L100*100*10	62.9	207.57
M	3	BRC	L100*100*10	89.5	295.35
M	3	BRC	L100*100*10	89.5	295.35
M	2	HOR	L100*100*10	77.1	169.62

MATERIAL LIST PROYEK PEMBANGUNAN TOWER RCTI
SELF SUPORTING TOWER 120 M - YOGYAKARTA

SEGMENT	PCS	MEMBER	PROFIL	Weight(Kg)	TOTAL BERAT
M	2	HOR	L100*100*10	77.1	169.62
M	1	HOR	L100*100*10	77.1	84.81
M	1	HOR	L100*100*10	77.1	84.81
M	6	HY-1	L70*70*7	22.4	147.84
M	3	HY-2	L60*60*6	20	66.00
M	6	HY-3	L60*60*6	14.5	95.70
M	3	HY-4	L50*50*5	9	29.70
M	3	HY-5	L60*60*6	16.1	53.13
M	3	HY-6	L50*50*5	4	13.20
M	3	IBR	L60*60*6	27	89.10
M	3	IRD	L50*50*5	9.3	30.69
M	3	IRD	L50*50*5	9.3	30.69
M	3	IRD	L50*50*5	9.1	30.03
M	38	KOPPEL	L50*50*5	0.8	33.44
M	6	KOPPEL	L90*90*9	3	19.80
M	3	KOPPEL	L90*90*9	3	9.90
M	2	LEG	SCH 318.5x10.3	488.9	1,422.99
M	1	LEG	SCH 318.5x10.3	482.7	702.47
M	2	LEG	SCH 318.5x10.3	465.9	1,356.05
M	1	LEG	SCH 318.5x10.3	459.8	669.15
M	6	RD-1	L70*70*7	23.5	155.10
M	6	RD-2	L60*60*6	12.8	84.48
M	6	RD-3	L80*80*8	35.5	234.30
M	6	RD-4	L70*70*7	22.8	150.48
M	1	RD-5	L50*50*5	9.1	10.01
M	1	RD-5	L50*50*5	9.1	10.01
M	4	RD-5	L50*50*5	9.1	40.04
M	6	RD-6	L50*50*5	8.8	58.08
M	6	RD-7	L50*50*5	4.1	27.06
N	3	BRC	L100*100*10	67.5	222.75
N	3	BRC	L100*100*10	67.5	222.75
N	3	BRC	L100*100*10	89.5	295.35
N	3	BRC	L100*100*10	89.5	295.35
N	1	HOR	L100*100*10	84.4	92.84
N	1	HOR	L100*100*10	84.4	92.84
N	2	HOR	L100*100*10	84.4	185.68
N	2	HOR	L100*100*10	84.4	185.68
N	6	HY-1	L70*70*7	23.6	155.76
N	3	HY-2	L60*60*6	22	72.60
N	6	HY-3	L60*60*6	15.2	100.32
N	3	HY-4	L60*60*6	14.1	46.53
N	3	HY-5	L60*60*6	17.1	56.43
N	3	HY-6	L50*50*5	4.5	14.85
N	3	IBR	L60*60*6	29.8	98.34
N	3	IRD	L60*60*6	15.1	49.83
N	6	IRD	L60*60*6	15.5	102.30
N	9	KOPPEL	L90*90*9	3	29.70
N	2	LEG	SCH 318.5x10.3	482.7	1,404.95
N	1	LEG	SCH 318.5x10.3	476.6	693.60
N	6	RD-1	L70*70*7	25	165.00
N	6	RD-2	L60*60*6	13.2	87.12
N	6	RD-3	L80*80*8	39.2	258.72
N	6	RD-4	L70*70*7	24.2	159.72
N	1	RD-5	L60*60*6	14.4	15.84

MATERIAL LIST PROYEK PEMBANGUNAN TOWER RCTI
SELF SUPORTING TOWER 120 M - YOGYAKARTA

SEGMENT	PCS	MEMBER	PROFIL	Weight(Kg)	TOTAL BERAT
N	1	RD-5	L60*60*6	14.4	15.84
N	4	RD-5	L60*60*6	14.4	63.36
N	6	RD-6	L50*50*5	9	59.40
N	6	RD-7	L50*50*5	4.6	30.36
O	3	BRC	L120*120*12	104	343.20
O	3	BRC	L120*120*12	104	343.20
O	3	BRC	L120*120*12	128.9	425.37
O	3	BRC	L120*120*12	128.9	425.37
O	1	HOR	L100*100*10	77.1	84.81
O	1	HOR	L100*100*10	77.1	84.81
O	2	HOR	L100*100*10	77.1	169.62
O	2	HOR	L100*100*10	77.1	169.62
O	3	HOR	L100*100*10	29.8	98.34
O	6	HY-1	L70*70*7	24.7	163.02
O	3	HY-2	L60*60*6	23.9	78.87
O	6	HY-3	L60*60*6	15.8	104.28
O	3	HY-4	L60*60*6	15.4	50.82
O	3	HY-5	L60*60*6	17.7	58.41
O	3	HY-6	L50*50*5	4.9	16.17
O	3	IBR	L70*70*7	16	52.80
O	3	IBR	L70*70*7	28.2	93.06
O	6	IRD	L60*60*6	16.9	111.54
O	2	IRD	L60*60*6	16.5	36.30
O	1	IRD	L60*60*6	16.5	18.15
O	6	KOPPEL	L100*100*10	4.6	30.36
O	6	KOPPEL	L90*90*9	3	19.80
O	3	KOPPEL	L60*60*6	1.6	5.28
O	2	LEG	SCH 318.5x10.3	372.2	1,083.33
O	1	LEG	SCH 318.5x10.3	368.1	535.70
O	2	LEG	SCH 318.5x10.3	466.9	1,358.96
O	1	LEG	SCH 318.5x10.3	460.8	670.60
O	6	RD-1	L80*80*8	34.7	229.02
O	6	RD-2	L60*60*6	13.5	89.10
O	6	RD-3	L80*80*8	42.9	283.14
O	6	RD-4	L80*80*8	33.6	221.76
O	1	RD-5	L70*70*7	21.3	23.43
O	1	RD-5	L70*70*7	21.3	23.43
O	4	RD-5	L70*70*7	21.3	93.72
O	6	RD-6	L60*60*6	13.1	86.46
O	6	RD-7	L50*50*5	5.1	33.66
P	3	BRC	L120*120*12	128.7	424.71
P	3	BRC	L120*120*12	128.7	424.71
P	3	BRC	L120*120*12	111.3	367.29
P	3	BRC	L120*120*12	111.3	367.29
P	1	HOR	L100*100*10	55	60.50
P	1	HOR	L100*100*10	55	60.50
P	2	HOR	L100*100*10	55	121.00
P	2	HOR	L100*100*10	55	121.00
P	3	HOR	L100*100*10	89.5	295.35
P	6	HY-1	L70*70*7	26	171.60
P	3	HY-2	L60*60*6	25.9	85.47
P	6	HY-3	L60*60*6	16.4	108.24
P	3	HY-4	L60*60*6	16.7	55.11
P	3	HY-5	L60*60*6	18.5	61.05

MATERIAL LIST PROYEK PEMBANGUNAN TOWER RCTI
SELF SUPORTING TOWER 120 M - YOGYAKARTA

SEGMENT	PCS	MEMBER	PROFIL	Weight(Kg)	TOTAL BERAT
P	3	HY-6	L50*50*5	5.3	17.49
P	3	IBR	L70*70*7	19.8	65.34
P	3	IBR	L70*70*7	28.2	93.06
P	3	IRD	L60*60*6	17.9	59.07
P	6	IRD	L60*60*6	18.3	120.78
P	2	KOPPEL	L50*50*5	0.8	1.76
P	6	KOPPEL	L100*100*10	4.6	30.36
P	6	KOPPEL	L90*90*9	3	19.80
P	3	KOPPEL	L60*60*6	1.6	5.28
P	2	LEG	SCH 318.5x10.3	430.1	1,251.85
P	1	LEG	SCH 318.5x10.3	428.8	624.03
P	2	LEG	SCH 318.5x10.3	469.2	1,365.65
P	1	LEG	SCH 318.5x10.3	463	673.80
P	6	RD-1	L80*80*8	36.7	242.22
P	6	RD-2	L60*60*6	13.9	91.74
P	6	RD-3	L80*80*8	46.5	306.90
P	6	RD-4	L80*80*8	35.6	234.96
P	1	RD-5	L70*70*7	23.2	25.52
P	1	RD-5	L70*70*7	23.2	25.52
P	4	RD-5	L70*70*7	23.2	102.08
P	6	RD-6	L60*60*6	13.6	89.76
P	6	RD-7	L50*50*5	5.6	36.96
				Total	58,848.16

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
1	L50	Beam	DSTL6	-553.31	-7854.3	-3208.43	(SAM 6-1b)	0.213282	0.092659	0.055635	0.064788
2	L60	Brace	DSTL3	-987.12	-15615.97	-4672.83	(SAM 6-1a)	0.603804	0.463079	0.073544	0.067182
3	L60	Beam	DSTL6	-205.91	-12398.9	506.27	(SAM 6-1b)	0.202139	0.066517	0.089362	0.04626
4	L80	Brace	DSTL3	-512.81	-41467.13	-12410.9	(SAM 6-1b)	0.247117	0.075012	0.086644	0.085462
5	L60	Beam	DSTL6	-109.88	-14682.08	347.68	(SAM 6-1b)	0.25443	0.079869	0.108919	0.065642
6	L60	Brace	DSTL3	-271.36	-13486.81	-6614.35	(SAM 6-1b)	0.185826	0.06365	0.047929	0.074246
7	L80	Brace	DSTL4	-282.44	-33911.29	5761.07	(SAM 6-1b)	0.206489	0.04651	0.11453	0.045449
8	L50	Beam	DSTL5	-757.15	-417.81	7782.94	(SAM 6-1a)	0.376929	0.253593	0.085223	0.038113
9	L60	Brace	DSTL4	-1238.7	-431.87	6414.76	(SAM 6-1a)	0.648955	0.581103	0.048952	0.0189
10	L60	Beam	DSTL5	-777.94	-4731.52	-1410.69	(SAM 6-1a)	0.559442	0.502614	0.034282	0.022546
11	L80	Brace	DSTL4	-1069.2	-4036.48	15145.11	(SAM 6-1a)	0.383459	0.312798	0.055882	0.014779
12	L60	Beam	DSTL5	-84.62	-9769.66	231.67	(SAM 6-1b)	0.178443	0.061505	0.073133	0.043604
13	L60	Brace	DSTL4	-381.93	512.31	7862.73	(SAM 6-1b)	0.171423	0.089585	0.051061	0.030777
14	L80	Brace	DSTL3	-523.8	-15583.06	8945.79	(SAM 6-1b)	0.171672	0.086257	0.074115	0.0113
15	L50	Beam	DSTL3	622.73	-8621.11	7290.84	(SAM 6-1b)	0.222291	0.030348	0.184182	0.007762
16	L60	Brace	DSTL3	-437.69	9817.37	-304.59	(SAM 6-1a)	0.293875	0.205424	0.057751	0.0307
18	L80	Brace	DSTL3	-585.49	-33542.89	7156.45	(SAM 6-1b)	0.246779	0.085643	0.119143	0.041993
19	L60	Beam	DSTL4	296.64	-17134.97	-811.13	(SAM 6-1b)	0.199957	0.010039	0.109346	0.080572
20	L60	Brace	DSTL4	-124.91	-11909.74	2185.59	(SAM 6-1b)	0.15045	0.029299	0.095244	0.035907
21	L80	Brace	DSTL4	-77.84	-31719.97	-483.12	(SAM 6-1b)	0.153601	0.012818	0.089087	0.051696
22	L60	Beam	DSTL5	-103.51	-9727.51	-833.37	(SAM 6-1b)	0.19117	0.075234	0.06732	0.048617
23	L60	Brace	DSTL4	-414.06	-4480.13	8570.72	(SAM 6-1b)	0.2033	0.097124	0.091515	0.014662
24	L80	Brace	DSTL3	-555.33	-15398.52	-7293.13	(SAM 6-1b)	0.15688	0.091449	0.028417	0.037014
25	L80	Brace	DSTL4	-1117.84	-4417.06	17334.05	(SAM 6-1a)	0.407119	0.327029	0.062819	0.017272
26	L80	Beam	DSTL5	-842.2	-4620.74	-626.1	(SAM 6-1a)	0.604178	0.544135	0.040425	0.019618
27	L60	Brace	DSTL4	-1279.01	-669.27	7067.12	(SAM 6-1a)	0.675018	0.600011	0.054778	0.020228
28	L50	Beam	DSTL5	-809.58	-553.87	7339.21	(SAM 6-1a)	0.388378	0.271152	0.082126	0.035099
29	L50	Beam	DSTL3	577.26	-8496.56	-7733.67	(SAM 6-1b)	0.13166	0.028132	0.00883	0.094697
30	L60	Brace	DSTL3	-384.23	-13662.02	354.22	(SAM 6-1b)	0.234631	0.090126	0.095307	0.049199
31	L60	Beam	DSTL6	-246.87	-11849.57	-1453.79	(SAM 6-1b)	0.205069	0.079748	0.073501	0.05182
32	L80	Brace	DSTL3	-537.34	-33181.86	-4956.7	(SAM 6-1b)	0.222108	0.0786	0.082992	0.060517
33	L60	Beam	DSTL4	314.65	-17096.47	211.78	(SAM 6-1b)	0.202395	0.010649	0.11594	0.075807
34	L60	Brace	DSTL4	-143.69	-11832.68	-1482.72	(SAM 6-1b)	0.153404	0.033705	0.070606	0.049094
35	L80	Brace	DSTL4	-47.79	-31545.27	2116.39	(SAM 6-1b)	0.150678	0.00787	0.095595	0.047213
36	L50	Beam	DSTL6	-230.15	-12073.4	-4371.34	(SAM 6-1b)	0.216011	0.031917	0.089947	0.094147
37	L60	Brace	DSTL3	-768.68	-18990.43	12476.59	(SAM 6-1a)	0.555713	0.341272	0.19286	0.02158
38	L60	Beam	DSTL3	374.31	-17486.6	788.58	(SAM 6-1b)	0.197586	0.012668	0.122283	0.062636
39	L70	Brace	DSTL3	-250.39	-30727.12	7909.04	(SAM 6-1b)	0.276913	0.055331	0.166373	0.055209
40	L60	Beam	DSTL3	197.21	-18989.55	581.83	(SAM 6-1b)	0.217139	0.005674	0.131099	0.079366
41	L60	Brace	DSTL3	-101.09	-16592.74	7770.59	(SAM 6-1b)	0.21865	0.022442	0.163937	0.032271
42	L70	Brace	DSTL3	-24.09	-27743.97	-7267.44	(SAM 6-1b)	0.178469	0.006011	0.086726	0.085732
43	L60	Beam	DSTL3	208.83	-18891.91	667.72	(SAM 6-1b)	0.216655	0.007061	0.131021	0.078574
44	L80	Brace	DSTL3	-117.09	-16402.53	-9044.06	(SAM 6-1b)	0.168896	0.025993	0.049915	0.092988
45	L70	Brace	DSTL4	-43.32	-26110.4	4936.25	(SAM 6-1b)	0.194202	0.01081	0.131493	0.051898
46	L70	Brace	DSTL3	-300.19	-30344.4	10473.87	(SAM 6-1b)	0.290888	0.066336	0.176334	0.048217
47	L60	Beam	DSTL3	401.52	-17264.42	-1038.5	(SAM 6-1b)	0.190852	0.013588	0.10869	0.068574
48	L60	Brace	DSTL3	-749.9	-19123.19	7047.03	(SAM 6-1a)	0.533146	0.332936	0.160519	0.03969
49	L50	Beam	DSTL6	-291.75	-12146.99	4125.04	(SAM 6-1b)	0.27553	0.040459	0.189072	0.045099
50	L50	Beam	DSTL5	-626.63	32.76	11196.56	(SAM 6-1b)	0.280829	0.0869	0.129692	0.064237
51	L60	Brace	DSTL4	-1148.14	-579.86	9602.24	(SAM 6-1a)	0.605116	0.509743	0.066565	0.028807
52	L60	Beam	DSTL5	-666.16	-2113.33	8726.08	(SAM 6-1a)	0.449488	0.356419	0.071984	0.021085
53	L70	Brace	DSTL4	-934.43	-10818.95	-4515.95	(SAM 6-1a)	0.485745	0.412978	0.038483	0.034264
54	L60	Beam	DSTL1	187.2	-11862.93	42.3	(SAM 6-1b)	0.137268	0.006335	0.079681	0.051051
55	L60	Brace	DSTL4	-384.82	8.14	11475.44	(SAM 6-1b)	0.205516	0.085424	0.07825	0.041841
56	L70	Brace	DSTL3	-485.97	-10173.18	10464.28	(SAM 6-1a)	0.326523	0.242539	0.083759	0.000225
57	L60	Beam	DSTL4	86.84	-17686.66	-330.84	(SAM 6-1b)	0.19688	0.002939	0.116258	0.077683
58	L60	Brace	DSTL3	-165.75	-13646	-3814.59	(SAM 6-1b)	0.166673	0.036794	0.066079	0.063801
59	L70	Brace	DSTL4	-178.16	-24679.22	4386.88	(SAM 6-1b)	0.219894	0.044459	0.125368	0.050057
60	L70	Brace	DSTL3	-725.52	-26331.34	11087.59	(SAM 6-1a)	0.50161	0.320652	0.147548	0.033409
61	L60	Beam	DSTL6	-427.35	-15450.16	-3918.51	(SAM 6-1a)	0.366575	0.22864	0.072845	0.065091
62	L60	Brace	DSTL3	-537.95	-17587.9	121.81	(SAM 6-1a)	0.403334	0.238837	0.107646	0.056851
63	L50	Beam	DSTL3	713.58	-12432.64	11004.81	(SAM 6-1b)	0.314235	0.034775	0.27129	0.00617
64	L50	Beam	DSTL5	-696.43	-827.94	5148.92	(SAM 6-1b)	0.193056	0.09658	0.071899	0.024578
65	L60	Brace	DSTL4	-1243.77	-2405.65	14226.27	(SAM 6-1a)	0.700378	0.552201	0.110583	0.037594
66	L60	Beam	DSTL5	-758.24	-4074.51	1236.58	(SAM 6-1a)	0.456635	0.405678	0.040598	0.01036
67	L70	Brace	DSTL4	-1042.38	-10146.82	14802.77	(SAM 6-1a)	0.580516	0.460691	0.111571	0.008254
68	L60	Beam	DSTL3	-41.47	-10557.02	-778.49	(SAM 6-1b)	0.142332	0.024962	0.068086	0.049284
69	L60	Brace	DSTL4	-434.67	-3446.63	12642.91	(SAM 6-1b)	0.241126	0.09649	0.111396	0.03324
70	L70	Brace	DSTL3	-525.6	-6305.64	8609.26	(SAM 6-1a)	0.330595	0.262318	0.064376	0.003902
71	L70	Brace	DSTL4	-242.26	-24801.4	2564.27	(SAM 6-1b)	0.234719	0.060455	0.119289	0.054975
72	L60	Brace	DSTL3	-203.65	-13792.17	-4894.94	(SAM 6-1b)	0.173391	0.045207	0.059889	0.068295
73	L60	Beam	DSTL4	69.96	-17725.5	834.83	(SAM 6-1b)	0.199519	0.002367	0.124327	0.072825
74	L70	Brace	DSTL3	-771.92	-26281.19	-6187.44	(SAM 6-1a)	0.494366	0.341158	0.08293	0.070279
75	L60	Beam	DSTL6	-550.29	-15346.77	-1165.15	(SAM 6-1a)	0.440556	0.294419	0.090415	0.055721
76	L60	Brace	DSTL3	-647.39	-18137.39	-4312.28	(SAM 6-1a)	0.445225	0.287426	0.084698	0.073102
77	L50	Beam	DSTL3	765.56	-12736.1	-5040.66	(SAM 6-1b)	0.228105	0.037308	0.089075	0.101722

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
78	L50	Beam	DSTL6	-197.31	-15594.52	-3696.8	(SAM 6-1b)	0.268919	0.022455	0.138241	0.108223
79	L60	Brace	DSTL3	-773.59	-20729.59	13302.37	(SAM 6-1a)	0.557494	0.326022	0.207182	0.02429
80	L60	Beam	DSTL3	391.9	-20446.13	1436.38	(SAM 6-1b)	0.229019	0.013263	0.14656	0.069176
81	L70	Brace	DSTL3	-286.23	-33817.62	9586.07	(SAM 6-1b)	0.299442	0.055884	0.186083	0.057475
82	L60	Beam	DSTL3	155.24	-19770.27	1078.55	(SAM 6-1b)	0.222275	0.005254	0.139656	0.077365
83	L60	Brace	DSTL3	-67.21	-18946.55	9390.55	(SAM 6-1b)	0.243418	0.018377	0.190356	0.034686
84	L70	Brace	DSTL3	-24.42	-31144.7	-9814.11	(SAM 6-1b)	0.19403	0.005396	0.09025	0.098384
85	L70	Brace	DSTL3	-156.09	-4043.86	43232.48	(SAM 6-1b)	0.313118	0.023748	0.200257	0.089113
86	L70	Brace	DSTL4	-257.82	-3844.91	29535.76	(SAM 6-1b)	0.239943	0.039226	0.142406	0.058311
87	L70	Brace	DSTL4	-1169.44	-47581.21	12937.88	(SAM 6-1a)	0.66083	0.355846	0.234272	0.070712
88	L70	Brace	DSTL3	-1143.19	-49194.38	-23407.91	(SAM 6-1a)	0.599223	0.347857	0.103827	0.147538
89	L70	Brace	DSTL3	-1550.02	-48706.23	-10090.35	(SAM 6-1a)	0.743784	0.471651	0.152284	0.119849
90	L70	Brace	DSTL4	-1446.82	-48750.4	26276.16	(SAM 6-1a)	0.778122	0.44025	0.291283	0.046589
91	L70	Brace	DSTL3	-132.58	-3094.81	44949.08	(SAM 6-1b)	0.316675	0.01895	0.203287	0.094438
92	L70	Brace	DSTL4	-239.62	-2606.84	32615.52	(SAM 6-1b)	0.252212	0.03428	0.150758	0.067174
93	L70	Brace	DSTL4	-1038.67	-49173.54	14678.38	(SAM 6-1a)	0.611561	0.296986	0.244901	0.069673
94	L70	Brace	DSTL3	-1009.98	-51530.78	-24061.94	(SAM 6-1a)	0.549214	0.268728	0.108307	0.152179
95	L70	Brace	DSTL3	-1391.19	-50902.08	-12162.97	(SAM 6-1a)	0.674944	0.397706	0.150007	0.127232
96	L70	Brace	DSTL4	-1281.32	-50527.18	26599.02	(SAM 6-1a)	0.711593	0.356297	0.296381	0.048915
97	L70	Brace	DSTL5	-138.64	-1373.43	47140.71	(SAM 6-1b)	0.326183	0.018618	0.205081	0.102485
98	L70	Brace	DSTL4	-238.85	-2275.93	36188.62	(SAM 6-1b)	0.271401	0.032075	0.163468	0.075857
99	L70	Brace	DSTL4	-925.98	-50782.72	17040.11	(SAM 6-1a)	0.574648	0.248695	0.25846	0.067493
100	L70	Brace	DSTL3	-892.92	-53494.1	-24552.99	(SAM 6-1a)	0.506071	0.239818	0.112518	0.155735
101	L70	Brace	DSTL3	-1275.3	-52746.59	-14224.2	(SAM 6-1a)	0.623797	0.342514	0.147437	0.133846
102	L70	Brace	DSTL4	-1156.22	-52353.24	27394.04	(SAM 6-1a)	0.665371	0.310535	0.304414	0.050423
103	L70	Brace	DSTL5	-133.45	-1014.85	49333.09	(SAM 6-1b)	0.336968	0.016841	0.212752	0.107375
104	L70	Brace	DSTL4	-239.57	-1826.6	39920.41	(SAM 6-1b)	0.292037	0.030233	0.177219	0.084585
105	L70	Brace	DSTL4	-820.84	-52312.57	19588.44	(SAM 6-1a)	0.544816	0.207176	0.272775	0.064864
106	L70	Brace	DSTL3	-799.62	48460.46	24953.92	(SAM 6-1a)	0.432954	0.201819	0.086419	0.144717
107	L70	Brace	DSTL3	-1168.69	-54397.72	-16284.44	(SAM 6-1a)	0.579673	0.294972	0.144669	0.140032
108	L70	Brace	DSTL4	-1039.05	-54107.18	28292.83	(SAM 6-1a)	0.626895	0.262251	0.313046	0.051598
109	L70	Brace	DSTL5	-141.19	-674.1	51510.13	(SAM 6-1b)	0.349364	0.016754	0.220477	0.112132
110	L70	Brace	DSTL4	-234.85	-1415.64	43719.99	(SAM 6-1b)	0.312544	0.027868	0.191414	0.093262
111	L70	Brace	DSTL4	-739.25	-53666.72	22265.81	(SAM 6-1b)	0.480289	0.087723	0.323136	0.06943
112	L70	Brace	DSTL3	-695.63	-56881.94	-25269.28	(SAM 6-1b)	0.40001	0.082546	0.136031	0.181433
113	L70	Brace	DSTL3	-1097.04	-55905.67	-18362	(SAM 6-1a)	0.547979	0.260361	0.141678	0.145941
114	L70	Brace	DSTL4	-951.1	-55715.42	29199.55	(SAM 6-1a)	0.599805	0.225723	0.321581	0.0525
139	L60	Beam	DSTL3	176.11	-19644.23	1135.18	(SAM 6-1b)	0.22176	0.00596	0.139191	0.076609
140	L60	Brace	DSTL3	-114.83	-18709.05	-11235.11	(SAM 6-1b)	0.183386	0.024197	0.050567	0.108622
141	L70	Brace	DSTL3	16.72	-30864.24	6698.19	(SAM 6-1b)	0.216888	0.000416	0.15845	0.058023
196	L70	Brace	DSTL3	-350.95	-33327.81	13605.75	(SAM 6-1b)	0.317183	0.068521	0.201737	0.046926
197	L60	Beam	DSTL3	433.09	-20156.92	-1756.4	(SAM 6-1b)	0.217655	0.014657	0.123256	0.079742
198	L60	Brace	DSTL3	-758.06	-20746.07	9432.2	(SAM 6-1a)	0.539877	0.319477	0.183523	0.036877
199	L50	Beam	DSTL6	-280.09	-15585.12	3436.95	(SAM 6-1b)	0.320747	0.031876	0.220667	0.068203
200	L50	Beam	DSTL3	641.73	-15917.36	6822.57	(SAM 6-1b)	0.345498	0.031273	0.263216	0.051009
201	L60	Brace	DSTL3	-590.6	-9298.03	0	(SAM 6-1a)	0.349344	0.248904	0.068898	0.031542
202	L60	Beam	DSTL6	-395.3	-18207.6	2000.07	(SAM 6-1b)	0.283569	0.085865	0.138372	0.059332
203	L70	Brace	DSTL3	-665.1	-29378.01	7030.3	(SAM 6-1a)	0.448528	0.259712	0.141486	0.04733
204	L60	Beam	DSTL4	20	-18314.48	-507.13	(SAM 6-1b)	0.197862	0.000677	0.119283	0.077902
205	L60	Brace	DSTL3	-234.65	-16477.48	5807.9	(SAM 6-1b)	0.238067	0.049446	0.149942	0.038699
206	L70	Brace	DSTL4	-259.84	-27776.02	-5078.42	(SAM 6-1b)	0.235615	0.05742	0.099086	0.07931
207	L60	Beam	DSTL3	-80.33	-8795.74	-323.33	(SAM 6-1b)	0.137591	0.03926	0.060088	0.038243
208	L60	Brace	DSTL4	-554.68	-2671.06	15135.54	(SAM 6-1a)	0.383283	0.233763	0.109657	0.039852
209	L70	Brace	DSTL3	-661.95	-5040.09	12936	(SAM 6-1a)	0.384108	0.292554	0.075768	0.015785
210	L70	Brace	DSTL4	-1031.86	-2869.41	17837.65	(SAM 6-1a)	0.52017	0.402927	0.086693	0.03055
211	L60	Beam	DSTL5	-666.99	-3693.13	-2148.04	(SAM 6-1a)	0.322671	0.289757	0.013497	0.019417
212	L60	Brace	DSTL4	-1206.25	-1370.34	16285.67	(SAM 6-1a)	0.567356	0.506363	0.111267	0.047727
213	L50	Beam	DSTL5	-548.54	168.43	6968	(SAM 6-1b)	0.181735	0.062429	0.07923	0.040076
214	L50	Beam	DSTL4	1037.52	-582	13307.67	(SAM 6-1b)	0.282708	0.050562	0.160774	0.071373
215	L60	Brace	DSTL4	-1076.18	-681.08	11855.35	(SAM 6-1a)	0.567629	0.453547	0.078463	0.035619
216	L60	Beam	DSTL5	-528.95	-1451.05	4874.8	(SAM 6-1a)	0.281903	0.229791	0.041464	0.010648
217	L70	Brace	DSTL4	-824.82	-2484.27	14306.67	(SAM 6-1a)	0.455823	0.361126	0.070638	0.024058
218	L60	Beam	DSTL4	316.06	-9751.25	-1733.47	(SAM 6-1b)	0.111938	0.010696	0.053707	0.047535
219	L60	Brace	DSTL4	-482.51	-229.54	13473.1	(SAM 6-1a)	0.328896	0.20335	0.08293	0.042617
220	L70	Brace	DSTL3	-593.09	-9047.03	16013.66	(SAM 6-1a)	0.375966	0.262121	0.099745	0.0141
221	L60	Beam	DSTL4	70.1	-18253.26	-1613.96	(SAM 6-1b)	0.196061	0.002372	0.111459	0.08223
222	L60	Brace	DSTL3	-181.33	-16289.48	-4164.58	(SAM 6-1b)	0.193776	0.03821	0.081369	0.074197
223	L70	Brace	DSTL4	-178.78	-27576.75	8136.19	(SAM 6-1b)	0.239242	0.039506	0.152747	0.046989
224	L70	Brace	DSTL3	-565.17	-28984.48	3422.26	(SAM 6-1a)	0.400241	0.22069	0.12557	0.05398
225	L60	Beam	DSTL6	-266.01	-18032.48	4799.36	(SAM 6-1b)	0.261044	0.05778	0.154873	0.048391
226	L60	Brace	DSTL3	-490.18	-9298.03	0	(SAM 6-1a)	0.30399	0.206581	0.066149	0.03126
227	L50	Beam	DSTL3	576.43	-15617.4	12911.44	(SAM 6-1b)	0.37349	0.028091	0.330222	0.015177
228	L50	Beam	DSTL3	440.14	-15114.31	803.94	(SAM 6-1b)	0.289437	0.021449	0.184254	0.083733
229	L50	Brace	DSTL3	-308.59	-12231.68	4970.46	(SAM 6-1a)	0.48424	0.259592	0.181813	0.042835
230	L50	Beam	DSTL3	214.18	-11458.17	814.76	(SAM 6-1b)	0.226297	0.010438	0.14206	0.075799
231	L50	Beam	DSTL3	294.77	-11342.82	-919.92	(SAM 6-1b)	0.222342	0.014365	0.120646	0.087332

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

	Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
	Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
232		L50	Brace	DSTL3	-378.99	-12015.26	6111.38	(SAM 6-1a)	0.546643	0.318814	0.192792	0.035036
233		L50	Beam	DSTL3	510.62	-14882.59	-1289.82	(SAM 6-1b)	0.276849	0.024884	0.157337	0.094628
234		L50	Beam	DSTL3	450.72	-15149.75	12794.51	(SAM 6-1b)	0.359202	0.021965	0.323456	0.013781
235		L50	Brace	DSTL3	-236.24	-11193.62	-752.81	(SAM 6-1a)	0.379924	0.200417	0.109641	0.069867
236		L50	Beam	DSTL5	-119.32	-10071.2	-1105.23	(SAM 6-1b)	0.271268	0.082071	0.108894	0.080303
237		L70	Brace	DSTL3	-599.29	-32400.78	11454.39	(SAM 6-1a)	0.501965	0.283713	0.172217	0.046035
238		L70	Brace	DSTL3	-175.6	-36044.6	-12086.03	(SAM 6-1b)	0.262483	0.041565	0.103716	0.117201
239		L70	Brace	DSTL3	-98.67	-36484.05	6595.04	(SAM 6-1b)	0.279383	0.023356	0.183287	0.07274
240		L50	Beam	DSTL5	-346	-1206.49	12943.7	(SAM 6-1b)	0.292995	0.059498	0.164931	0.068565
241		L50	Brace	DSTL4	-665.83	-1870.98	4534.92	(SAM 6-1a)	0.655264	0.560113	0.080756	0.014393
242		L50	Beam	DSTL5	-263.28	-2663.02	1079.4	(SAM 6-1a)	0.424091	0.392186	0.050398	0.011506
243		L70	Brace	DSTL4	-667.92	-10448.2	20204.25	(SAM 6-1a)	0.46296	0.316208	0.127027	0.019725
244		L70	Brace	DSTL4	-595.52	-10910.05	14752.32	(SAM 6-1a)	0.395767	0.281933	0.106723	0.007111
245		L50	Beam	DSTL5	-175.36	-3029.58	654.4	(SAM 6-1a)	0.30159	0.241245	0.044454	0.015891
246		L50	Brace	DSTL4	-598.45	-2092.58	3409.57	(SAM 6-1a)	0.579238	0.503429	0.069154	0.006654
247		L50	Beam	DSTL5	-267.77	-1389.29	15039.9	(SAM 6-1b)	0.31685	0.046045	0.191016	0.079789
248		L50	Beam	DSTL3	384.11	13048.53	14884.75	(SAM 6-1b)	0.203416	0.018719	0.021254	0.163443
249		L50	Brace	DSTL3	-171.35	-10970.27	1862.02	(SAM 6-1b)	0.28183	0.07207	0.149792	0.059968
250		L50	Beam	DSTL3	406.54	-10590.35	-539.95	(SAM 6-1b)	0.215412	0.019812	0.116334	0.079267
251		L70	Brace	DSTL3	-526.99	-31932.77	-6037.19	(SAM 6-1a)	0.436175	0.250432	0.103015	0.082729
252		L50	Beam	DSTL4	184.85	-18168.19	1671.24	(SAM 6-1b)	0.333531	0.009008	0.229642	0.094881
253		L50	Brace	DSTL3	-183.73	-12992.02	5494.36	(SAM 6-1b)	0.338288	0.072879	0.216387	0.049021
254		L50	Beam	DSTL4	270.86	-11768.94	1311.72	(SAM 6-1b)	0.236923	0.0132	0.151409	0.072314
255		L50	Brace	DSTL4	-176.11	-11121.2	1721.15	(SAM 6-1a)	0.489342	0.285052	0.141558	0.062731
256		L50	Brace	DSTL4	-82.01	-11005.35	3673.99	(SAM 6-1b)	0.295117	0.086373	0.174193	0.054551
257		L50	Beam	DSTL3	126.54	-11978.7	-1270.33	(SAM 6-1b)	0.221736	0.006167	0.12396	0.09162
258		L50	Brace	DSTL3	-281.48	-12709.95	7041.76	(SAM 6-1a)	0.463181	0.22331	0.206744	0.033128
259		L50	Beam	DSTL3	370.62	-17338.76	-1767.24	(SAM 6-1b)	0.308189	0.018061	0.180241	0.109887
260		L50	Beam	DSTL3	639.28	-17920.97	15061.13	(SAM 6-1b)	0.429323	0.031105	0.381769	0.016448
261		L70	Brace	DSTL3	-429.55	-44809.05	-1953.3	(SAM 6-1b)	0.327249	0.044355	0.18133	0.101565
262		L60	Beam	DSTL4	-260.31	-22353.58	-2725.92	(SAM 6-1b)	0.301273	0.070439	0.135633	0.095201
263		L70	Brace	DSTL3	-467	-34849.41	13332.34	(SAM 6-1b)	0.358208	0.098382	0.208002	0.051823
264		L70	Brace	DSTL4	-617.25	-5034.94	23807.76	(SAM 6-1a)	0.413407	0.260072	0.114193	0.039142
265		L60	Beam	DSTL5	-362.39	-3765.02	2643.93	(SAM 6-1a)	0.249953	0.203957	0.041765	0.004231
266		L70	Brace	DSTL4	-694.48	-1087.8	21554.28	(SAM 6-1b)	0.212611	0.07171	0.096517	0.044384
267		L50	Beam	DSTL5	-378.23	27.64	15332.66	(SAM 6-1b)	0.321082	0.055176	0.177589	0.088318
268		L50	Beam	DSTL5	-241.87	309.7	18186.62	(SAM 6-1b)	0.348862	0.035284	0.207216	0.106362
269		L70	Brace	DSTL4	-588.08	17.24	16185.15	(SAM 6-1b)	0.164857	0.060724	0.068991	0.035142
270		L60	Beam	DSTL3	-169.09	-4117.46	2627.15	(SAM 6-1b)	0.101463	0.047583	0.047895	0.005985
271		L70	Brace	DSTL4	-498.42	-4439.5	16244.62	(SAM 6-1a)	0.316652	0.210007	0.082127	0.024518
272		L70	Brace	DSTL3	-350.11	-34227.39	5837.51	(SAM 6-1b)	0.314223	0.073759	0.172406	0.068059
273		L60	Beam	DSTL4	-106.92	-22098.73	2533.53	(SAM 6-1b)	0.270836	0.030087	0.166671	0.074078
274		L70	Brace	DSTL3	-325.58	-43686.82	-7229.49	(SAM 6-1b)	0.29839	0.033618	0.1542	0.110572
275		L50	Beam	DSTL3	521.97	-17571.38	17904.43	(SAM 6-1b)	0.437987	0.025437	0.410634	0.001916
276		L50	Beam	DSTL4	321.94	-21082.7	22.71	(SAM 6-1b)	0.378991	0.015689	0.244296	0.119006
277		L50	Brace	DSTL4	-272.48	11066.25	-6636.04	(SAM 6-1a)	0.408692	0.204298	0.179303	0.025092
278		L50	Beam	DSTL5	-143.03	-12268.89	1899.38	(SAM 6-1b)	0.306774	0.069767	0.166989	0.070018
279		L50	Brace	DSTL4	-272.64	-11459.9	1842.02	(SAM 6-1a)	0.603372	0.391437	0.149009	0.062926
280		L50	Brace	DSTL4	-148.83	-11297.28	4577.52	(SAM 6-1a)	0.42622	0.213674	0.168839	0.043707
281		L50	Beam	DSTL4	253.04	-12496.02	-1766.24	(SAM 6-1b)	0.232257	0.012331	0.124198	0.095729
282		L50	Brace	DSTL3	-177.47	-13445.86	7257.04	(SAM 6-1b)	0.348238	0.066531	0.241587	0.04012
283		L50	Beam	DSTL4	179.13	-20911.7	287.03	(SAM 6-1b)	0.370652	0.00873	0.245376	0.116546
284		L50	Beam	DSTL5	-302.71	-19387.42	30608.73	(SAM 6-1b)	0.679316	0.036962	0.578958	0.063396
285		L50	Brace	DSTL3	-445.52	-12986.95	-4202.14	(SAM 6-1a)	0.52654	0.334037	0.093686	0.098817
286		L60	Beam	DSTL4	-281.31	-24411.67	-3320.99	(SAM 6-1b)	0.313203	0.066173	0.144592	0.102437
287		L50	Brace	DSTL3	-467.51	-11274.44	4171.26	(SAM 6-1a)	0.910969	0.671204	0.191793	0.047971
288		L50	Brace	DSTL4	-521.06	-2681.14	7416.69	(SAM 6-1a)	0.921715	0.748123	0.146383	0.02721
289		L60	Beam	DSTL3	-219.13	-4155.95	3199.94	(SAM 6-1b)	0.106658	0.051546	0.051315	0.003797
290		L50	Brace	DSTL4	-549.33	-665.58	2725.47	(SAM 6-1a)	0.46281	0.411866	0.039497	0.011447
291		L50	Beam	DSTL5	-299.41	925.84	30706.26	(SAM 6-1b)	0.560233	0.036559	0.344938	0.178736
292		L50	Beam	DSTL4	533.89	376.86	30205.42	(SAM 6-1b)	0.5441	0.026018	0.345267	0.172815
293		L50	Brace	DSTL4	-435.72	-379.57	2347.9	(SAM 6-1a)	0.369	0.326689	0.031289	0.011023
294		L60	Beam	DSTL5	-89.06	-2237.54	4526.36	(SAM 6-1b)	0.07532	0.02095	0.046048	0.008322
295		L50	Brace	DSTL4	-387.96	-2470.79	4683.29	(SAM 6-1a)	0.665482	0.556999	0.096464	0.012019
296		L50	Brace	DSTL3	-329.99	-11063.26	1446.26	(SAM 6-1a)	0.682938	0.473767	0.146047	0.063124
297		L50	Beam	DSTL4	-121.37	-24149.06	4409.4	(SAM 6-1b)	0.294004	0.028549	0.192658	0.072797
298		L50	Brace	DSTL3	-328.15	-12696.61	-4561.65	(SAM 6-1a)	0.43106	0.246034	0.085906	0.09912
299		L50	Beam	DSTL3	543.35	-19876.33	30102.28	(SAM 6-1b)	0.662769	0.026479	0.579504	0.057785
300		L50	Beam	DSTL4	330.08	-23758.66	2069.28	(SAM 6-1b)	0.435402	0.016086	0.298959	0.120356
301		L50	Brace	DSTL4	-312.67	-13506.16	6523.1	(SAM 6-1a)	0.469377	0.222145	0.207308	0.039924
302		L50	Beam	DSTL5	-142.09	-13309.54	2809.88	(SAM 6-1b)	0.314146	0.056923	0.188577	0.068645
303		L50	Brace	DSTL4	-304.68	-11691.31	1828.39	(SAM 6-1a)	0.598551	0.386919	0.14885	0.062781
304		L50	Brace	DSTL4	-127.14	-11477.74	5591.01	(SAM 6-1b)	0.323823	0.080729	0.201206	0.041888
305		L50	Beam	DSTL4	213.65	-13356.55	-2669.69	(SAM 6-1b)	0.238468	0.010412	0.123701	0.104355
306		L50	Brace	DSTL3	-204.51	-13698.39	8413.11	(SAM 6-1b)	0.362743	0.07265	0.256711	0.033382
307		L50	Beam	DSTL4	164.06	-23468.2	-1733.95	(SAM 6-1b)	0.399419	0.007995	0.251575	0.139849

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Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
308	L50	Beam	DSTL3	596.4	-23079.01	15228.75	(SAM 6-1b)	0.51604	0.029064	0.443414	0.043562
309	L50	Brace	DSTL3	-499.78	-13818.05	1744.92	(SAM 6-1a)	0.587158	0.35508	0.163156	0.068922
310	L50	Beam	DSTL6	-231.95	-12905.11	-2255.99	(SAM 6-1b)	0.318947	0.092919	0.126865	0.099164
311	L50	Brace	DSTL3	-411.94	-11578.47	4979.85	(SAM 6-1a)	0.753344	0.523133	0.187456	0.042755
312	L50	Brace	DSTL4	-516.63	-2335.31	8701.15	(SAM 6-1a)	0.83388	0.656082	0.14014	0.037658
412	L60	Beam	DSTL4	-696.57	-48659.69	6013.57	(SAM 6-1b)	0.557608	0.052848	0.356915	0.137846
413	L60	Beam	DSTL4	500.22	-52074.79	4495.78	(SAM 6-1b)	0.549595	0.015929	0.378939	0.153727
415	L60	Beam	DSTL4	-250.61	-1931.04	6521.12	(SAM 6-1b)	0.090491	0.018851	0.05686	0.01478
416	L60	Beam	DSTL3	-756.39	-47253.72	-6200.89	(SAM 6-1b)	0.504527	0.057141	0.2748	0.172586
417	L60	Beam	DSTL4	-529.23	-47163.6	-5048.84	(SAM 6-1b)	0.490732	0.040152	0.281915	0.168666
418	L50	Beam	DSTL6	-583.93	-21976.96	3145.21	(SAM 6-1a)	0.570005	0.211533	0.259821	0.09685
419	L50	Beam	DSTL3	-885.37	-20672.82	2409.73	(SAM 6-1a)	0.65213	0.320736	0.236039	0.095355
420	L50	Beam	DSTL4	-273.69	-2762.7	-2141.52	(SAM 6-1b)	0.088288	0.049574	0.009561	0.029153
421	L50	Beam	DSTL3	96.15	-1226.51	3661.7	(SAM 6-1b)	0.075596	0.004686	0.056581	0.01433
422	L50	Beam	DSTL5	-627.84	-21344.61	-3425.01	(SAM 6-1a)	0.541849	0.227442	0.18478	0.129627
423	L50	Beam	DSTL4	-417.33	-21591.5	-2656.98	(SAM 6-1b)	0.437846	0.075591	0.219514	0.142741
424	L50	Beam	DSTL6	-669.21	-20492.11	3358.96	(SAM 6-1a)	0.620133	0.281162	0.247607	0.091364
425	L50	Beam	DSTL3	-981.17	-19357.18	2598.56	(SAM 6-1a)	0.726841	0.412226	0.225544	0.089071
426	L50	Beam	DSTL4	-289.18	-2770.76	-2307.75	(SAM 6-1b)	0.099787	0.060748	0.008289	0.03075
427	L50	Beam	DSTL3	95.46	-1400.25	3885.35	(SAM 6-1b)	0.080703	0.004652	0.061181	0.014869
428	L50	Beam	DSTL3	-714.4	-19991.29	-3645.78	(SAM 6-1a)	0.595777	0.300147	0.169714	0.125917
429	L50	Beam	DSTL4	-490.52	-20245.74	-2842.96	(SAM 6-1a)	0.508991	0.206086	0.179982	0.122923
430	L50	Beam	DSTL6	-771.2	-19101.29	3540.9	(SAM 6-1a)	0.693097	0.37195	0.236641	0.084505
431	L50	Beam	DSTL3	-1082.05	-18177.85	2755.95	(SAM 6-1a)	0.822565	0.52187	0.217189	0.083506
432	L50	Beam	DSTL4	-289.53	156.95	2447.69	(SAM 6-1b)	0.112461	0.069819	0.026836	0.015806
433	L50	Beam	DSTL3	88.18	-1542.97	4069.55	(SAM 6-1b)	0.08463	0.004297	0.064965	0.015367
434	L50	Beam	DSTL3	-807.72	-18713.69	-3809.77	(SAM 6-1a)	0.668303	0.389562	0.156596	0.122144
435	L50	Beam	DSTL4	-579.59	-18980.24	-2985.95	(SAM 6-1a)	0.565148	0.279536	0.166605	0.119007
436	L60	Beam	DSTL4	-890.4	-36489.25	7452.7	(SAM 6-1a)	0.588362	0.235633	0.26407	0.088659
437	L60	Beam	DSTL3	-1211.33	-34648.32	6307.39	(SAM 6-1a)	0.651229	0.320562	0.244361	0.086306
438	L60	Beam	DSTL4	-290.81	188.08	5854.2	(SAM 6-1b)	0.097202	0.038479	0.038042	0.020681
439	L60	Beam	DSTL4	44.91	-2890.35	8153.5	(SAM 6-1b)	0.09352	0.00152	0.073977	0.018023
440	L60	Beam	DSTL3	-910.82	-35577.31	-7817.42	(SAM 6-1a)	0.540098	0.241037	0.166783	0.132278
441	L60	Beam	DSTL4	-682.31	-35807.82	-6602.56	(SAM 6-1b)	0.432469	0.090283	0.196808	0.145378
442	L60	Beam	DSTL4	-434.32	-33578.55	7435.41	(SAM 6-1b)	0.431607	0.064877	0.27582	0.09091
443	L60	Beam	DSTL4	323.59	-36199.74	7404.43	(SAM 6-1b)	0.403017	0.010951	0.292083	0.099983
444	L60	Beam	DSTL3	-204.34	-4076.32	7192.14	(SAM 6-1b)	0.118219	0.030524	0.07708	0.010615
445	L60	Beam	DSTL5	-333.22	-1747.61	7276.61	(SAM 6-1b)	0.129974	0.049775	0.061079	0.01912
446	L60	Beam	DSTL4	173.58	-35398.69	-6952.1	(SAM 6-1b)	0.343474	0.005874	0.19055	0.14705
447	L60	Beam	DSTL3	352.1	-36076.9	-6940.24	(SAM 6-1b)	0.356452	0.011916	0.195173	0.149363
448	L60	Beam	DSTL3	-263.51	-30864.81	7142.75	(SAM 6-1b)	0.388773	0.047302	0.256584	0.084887
449	L60	Beam	DSTL4	-381.02	-30617.29	7853.79	(SAM 6-1b)	0.414286	0.071093	0.2615	0.081693
450	L60	Beam	DSTL3	-312.17	-3583.22	8017.24	(SAM 6-1b)	0.154445	0.058248	0.060771	0.015425
451	L60	Beam	DSTL3	-370.68	-3358.43	6744.32	(SAM 6-1b)	0.150658	0.069166	0.069652	0.01184
452	L60	Beam	DSTL4	-483.37	-30097.42	-6803.78	(SAM 6-1b)	0.382907	0.090192	0.160534	0.13218
453	L60	Beam	DSTL3	-454.63	-31209.79	-7562.55	(SAM 6-1b)	0.386244	0.084829	0.162588	0.136828
454	L60	Beam	DSTL3	-128.56	-27714.83	7141.51	(SAM 6-1b)	0.339763	0.029303	0.23491	0.075549
455	L60	Beam	DSTL3	-396.02	-25067.52	7009.9	(SAM 6-1b)	0.374389	0.090267	0.217642	0.06648
456	L60	Beam	DSTL4	-366.12	-1748.64	7038.72	(SAM 6-1b)	0.16388	0.083453	0.061364	0.019063
457	L60	Beam	DSTL4	-96.5	-5115.82	7517.85	(SAM 6-1b)	0.116327	0.021997	0.085677	0.008654
458	L60	Beam	DSTL3	-157.94	-25408.11	-7634.3	(SAM 6-1b)	0.27736	0.036	0.120176	0.121183
459	L60	Beam	DSTL3	-365.96	-27968.75	-7396.4	(SAM 6-1b)	0.356037	0.083417	0.142496	0.130122
460	L90	Beam	DSTL3	228.14	-116497.24	35785.74	(SAM 6-1b)	0.386805	0.003431	0.302243	0.08113
461	L90	Beam	DSTL3	-892.81	-105628.18	34919	(SAM 6-1b)	0.399167	0.04822	0.279774	0.071174
462	L90	Beam	DSTL4	-580.47	-231.3	34977.08	(SAM 6-1b)	0.1366	0.031351	0.070387	0.034862
463	L90	Beam	DSTL4	-285.51	-17978.31	37292.91	(SAM 6-1b)	0.145098	0.01542	0.110346	0.019332
464	L90	Beam	DSTL3	-663.12	-104904.29	-37575.02	(SAM 6-1b)	0.313475	0.035815	0.134349	0.143311
465	L90	Beam	DSTL3	-174.51	-119282.68	-36150.9	(SAM 6-1b)	0.33113	0.009425	0.165412	0.156293
466	L100	Beam	DSTL4	-601.3	-152019.08	51148	(SAM 6-1b)	0.393481	0.025174	0.294652	0.073655
467	L100	Beam	DSTL3	-1042.84	-146824.59	49700.06	(SAM 6-1b)	0.40002	0.04366	0.2854	0.07096
468	L60	Beam	DSTL4	-460.28	-4170.7	6549.74	(SAM 6-1a)	0.376725	0.297382	0.072198	0.007145
469	L60	Beam	DSTL4	-1204.75	-6071.69	8276.3	(SAM 6-1a)	0.921146	0.778371	0.138845	0.003931
470	L100	Beam	DSTL3	-3934.55	-147680.2	-64038.43	(SAM 6-1a)	0.579586	0.32945	0.112369	0.137767
471	L100	Beam	DSTL3	-378.19	-159173.58	-51378.21	(SAM 6-1b)	0.326131	0.015834	0.15665	0.153647
472	L100	Beam	DSTL4	-882.51	-142042.99	41904.55	(SAM 6-1b)	0.38519	0.043095	0.267631	0.074463
473	L100	Beam	DSTL3	-1657.45	-136720.9	38728.1	(SAM 6-1b)	0.410498	0.080938	0.256558	0.073002
474	L100	Beam	DSTL3	108.79	-18283.26	37927.35	(SAM 6-1b)	0.097226	0.001325	0.08133	0.014571
475	L100	Beam	DSTL4	-908.63	-23047.91	45192.95	(SAM 6-1b)	0.161424	0.044371	0.100896	0.016157
476	L100	Beam	DSTL3	-2627.19	-137652.31	-44339.87	(SAM 6-1a)	0.501468	0.256587	0.124398	0.120484
477	L100	Beam	DSTL4	-1530.41	-141590.2	-40242.88	(SAM 6-1b)	0.359165	0.074734	0.149244	0.135186
478	L100	Beam	DSTL4	-1229.21	-133284.76	32397.35	(SAM 6-1b)	0.388107	0.069248	0.242443	0.076416
479	L100	Beam	DSTL3	-2180.42	-125310.72	29709.53	(SAM 6-1a)	0.514078	0.24567	0.203823	0.064585
480	L100	Beam	DSTL3	-4.09	-19333.44	28912.64	(SAM 6-1b)	0.077272	0.000231	0.069819	0.007222
481	L100	Beam	DSTL4	-611.79	-29503.62	34722.02	(SAM 6-1b)	0.133052	0.034465	0.094906	0.003681
482	L100	Beam	DSTL3	-2902.29	-126075	-34026.19	(SAM 6-1a)	0.54849	0.315736	0.124744	0.10801
483	L100	Beam	DSTL4	-1856.6	-132961.16	-31063.95	(SAM 6-1a)	0.45444	0.209185	0.134861	0.110394

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
484	L100	Beam	DSTL4	-1778.85	-122736.83	22104.83	(SAM 6-1a)	0.506211	0.244009	0.192378	0.069824
485	L100	Beam	DSTL3	-3174.31	-114694.94	18096.31	(SAM 6-1a)	0.686855	0.435475	0.183765	0.067615
486	L100	Beam	DSTL4	-375.08	-34574.79	-16782.42	(SAM 6-1b)	0.09313	0.025728	0.02749	0.039911
487	L100	Beam	DSTL4	-909	-34029.61	25489.76	(SAM 6-1b)	0.160007	0.062352	0.090501	0.007154
488	L100	Beam	DSTL3	-3699.04	-115213.95	-24374.99	(SAM 6-1a)	0.738525	0.507461	0.133646	0.097417
489	L100	Beam	DSTL4	-2352.79	-122522.27	-20218.1	(SAM 6-1a)	0.56197	0.322773	0.140222	0.098974
502	L50	Beam	DSTL5	-194.64	-1826.41	2161.65	(SAM 6-1b)	0.128397	0.077974	0.04857	0.001854
503	L50	Brace	DSTL4	-587.24	-1141.51	9205.07	(SAM 6-1a)	0.573357	0.417217	0.110565	0.045575
504	L50	Beam	DSTL4	589.55	-115.19	15348.38	(SAM 6-1b)	0.291277	0.027756	0.178991	0.08453
505	L50	Beam	DSTL4	423.28	295.26	19145.86	(SAM 6-1b)	0.346705	0.020628	0.218196	0.10788
506	L50	Brace	DSTL4	-425.05	-690.33	7550.08	(SAM 6-1a)	0.428068	0.301964	0.087244	0.03884
507	L50	Beam	DSTL4	273.58	-1456.44	3320.01	(SAM 6-1b)	0.080755	0.013333	0.055288	0.012135
508	L50	Brace	DSTL4	-354.47	-2048.4	4916.49	(SAM 6-1a)	0.551761	0.45016	0.085007	0.016594
509	L50	Brace	DSTL3	-248.22	-11296.44	1216.74	(SAM 6-1a)	0.515738	0.315218	0.136748	0.063772
510	L50	Beam	DSTL6	-46.11	-12731.2	3313.57	(SAM 6-1b)	0.266239	0.01847	0.186359	0.06141
511	L50	Brace	DSTL3	-336.61	-13374.6	128.82	(SAM 6-1a)	0.455399	0.239152	0.14076	0.075487
512	L50	Beam	DSTL3	448.69	-22689.35	19038.47	(SAM 6-1b)	0.525126	0.021866	0.483001	0.020259
513	L50	Beam	DSTL4	312.35	-17640.49	3421.23	(SAM 6-1b)	0.343389	0.015222	0.24379	0.084376
514	L50	Brace	DSTL4	-228.76	9506.7	-3852	(SAM 6-1a)	0.36868	0.202314	0.133765	0.032802
515	L50	Brace	DSTL3	-108.73	-12691.56	7427.04	(SAM 6-1b)	0.317748	0.048081	0.234662	0.035005
516	L50	Beam	DSTL3	187.1	-17238.23	-3352.69	(SAM 6-1b)	0.292029	0.009118	0.160726	0.122185
517	L50	Beam	DSTL3	221.96	14383.4	22687.7	(SAM 6-1b)	0.326917	0.010817	0.096123	0.219978
518	L50	Brace	DSTL4	-100.99	-12635.44	5751.13	(SAM 6-1b)	0.304929	0.044656	0.214569	0.045704
519	L60	Brace	DSTL4	-195.2	-3387.77	158.13	(SAM 6-1b)	0.078758	0.041627	0.02525	0.011881
520	L50	Beam	DSTL4	234.16	-1952.89	22799.22	(SAM 6-1b)	0.421619	0.011411	0.286507	0.123701
521	L50	Beam	DSTL5	-149.48	-1409.7	16479.58	(SAM 6-1b)	0.326147	0.029198	0.207584	0.089366
522	L60	Brace	DSTL4	-347.09	-2527.83	6936.81	(SAM 6-1b)	0.155769	0.074017	0.066014	0.015738
523	L50	Brace	DSTL3	-239.79	-12365.13	2226.59	(SAM 6-1a)	0.424333	0.21207	0.152359	0.059904
524	L50	Beam	DSTL6	-137.64	15043.98	16372.38	(SAM 6-1b)	0.229083	0.026886	0.015824	0.186374
525	L50	Beam	DSTL4	326.51	-18713.73	4108.16	(SAM 6-1b)	0.365294	0.015912	0.264164	0.085218
532	L50	Brace	DSTL4	-243.68	-12489.16	4122.51	(SAM 6-1a)	0.424684	0.20297	0.172725	0.048988
533	L50	Brace	DSTL3	-143.45	-12820.3	7853.49	(SAM 6-1b)	0.333876	0.059744	0.241371	0.032761
534	L50	Beam	DSTL3	218.92	-18522.12	-4032.54	(SAM 6-1b)	0.309984	0.010669	0.167717	0.131598
535	L50	Beam	DSTL3	384.62	-18584.74	14512.37	(SAM 6-1b)	0.425605	0.018744	0.3831	0.023761
536	L50	Brace	DSTL3	-244.73	-12900.94	-303.56	(SAM 6-1a)	0.412819	0.20385	0.13187	0.077099
537	L60	Brace	DSTL4	-337.88	-2387.43	11664.3	(SAM 6-1b)	0.196615	0.067861	0.095453	0.033301
538	L50	Beam	DSTL5	-118	-486.57	14786.9	(SAM 6-1b)	0.280209	0.019761	0.177037	0.083411
539	L50	Beam	DSTL3	173.37	-248.04	23266.2	(SAM 6-1b)	0.41493	0.008449	0.272178	0.134302
540	L60	Brace	DSTL4	-167.37	-1085.53	3176.75	(SAM 6-1b)	0.07022	0.033616	0.029112	0.007492
541	L50	Brace	DSTL4	-159.71	-12914.75	-4641.15	(SAM 6-1b)	0.279658	0.066517	0.097825	0.115316
542	L50	Beam	DSTL4	175.5	-17906.48	23127.39	(SAM 6-1b)	0.513983	0.008552	0.474969	0.030462
543	L50	Beam	DSTL3	243.53	-20090.67	2940.5	(SAM 6-1b)	0.376806	0.011868	0.266587	0.098351
544	L50	Brace	DSTL3	-175.13	-13316.34	5722.1	(SAM 6-1b)	0.341265	0.068809	0.222879	0.049577
545	L50	Brace	DSTL3	-112.03	-13424.14	7529.74	(SAM 6-1b)	0.326524	0.044018	0.244081	0.038425
546	1652X71	Column	DSTL4	-10387.25	974795.74	1751144.78	(H1-1b)	0.599453	0.076974	0.456514	0.254124
547	1652X71	Column	DSTL4	-9337.26	1005884.2	1755495.76	(H1-1b)	0.596645	0.069193	0.457649	0.262229
548	1652X71	Column	DSTL4	-8350.05	1017386.84	1754682.28	(H1-1b)	0.590644	0.061877	0.457436	0.265228
549	1652X71	Column	DSTL4	-7445.01	1025252.26	1752752.99	(H1-1b)	0.584534	0.05517	0.456934	0.267278
550	1652X71	Column	DSTL4	-6595.38	1017404	1735876.2	(H1-1b)	0.573407	0.048874	0.452534	0.265232
559	1652X71	Column	DSTL4	-5827.59	896330.41	1717159.4	(H1-1b)	0.548157	0.043186	0.447654	0.233669
560	1652X71	Column	DSTL4	-6629	960713.47	1691341.33	(H1-1b)	0.556214	0.049123	0.440924	0.250453
561	1652X71	Column	DSTL4	-7478.16	960633.72	1681119.93	(H1-1b)	0.560161	0.055416	0.438259	0.250432
562	1652X71	Column	DSTL4	-8384.31	957348.91	1669269.37	(H1-1b)	0.563789	0.062131	0.43517	0.249576
563	1652X71	Column	DSTL4	-9333.84	933176.19	1656824.04	(H1-1b)	0.564891	0.069167	0.431925	0.243274
564	L50	Beam	DSTL4	87.76	-20430.79	-3044.67	(SAM 6-1b)	0.340147	0.004277	0.201245	0.134625
565	L50	Beam	DSTL4	272.65	-18592.89	21044.89	(SAM 6-1b)	0.486157	0.013287	0.458809	0.014062
566	L50	Brace	DSTL4	-254.39	-12798.54	-3508.5	(SAM 6-1b)	0.316968	0.09995	0.110652	0.106365
567	L50	Brace	DSTL4	-130.05	-278.53	3193.4	(SAM 6-1b)	0.111186	0.051097	0.041241	0.018847
568	L50	Beam	DSTL4	135.88	627.6	20944.54	(SAM 6-1b)	0.365501	0.006622	0.235169	0.12371
569	L50	Beam	DSTL4	224.26	313.77	27191.34	(SAM 6-1b)	0.479772	0.010929	0.311109	0.157734
570	L50	Brace	DSTL4	-200.53	-516.69	1939.3	(SAM 6-1b)	0.117863	0.078787	0.029916	0.009159
571	L50	Brace	DSTL4	-213.71	-13529.44	-5025.05	(SAM 6-1b)	0.305876	0.083967	0.100984	0.120924
572	L50	Beam	DSTL4	219.39	-19596.16	27311.27	(SAM 6-1b)	0.597891	0.010691	0.542955	0.044244
573	L50	Beam	DSTL3	313.58	-21758.97	3584.21	(SAM 6-1b)	0.411026	0.015282	0.293348	0.102396
574	L50	Brace	DSTL3	-253.78	-13452.28	6144.39	(SAM 6-1b)	0.37187	0.094271	0.230197	0.047403
575	L50	Brace	DSTL3	-215.67	-13668.14	7998.11	(SAM 6-1b)	0.370454	0.080112	0.253581	0.036761
576	L50	Beam	DSTL3	283.88	-22041.59	-3931.14	(SAM 6-1b)	0.368818	0.01286	0.209629	0.146329
577	L50	Beam	DSTL4	355.66	-21197.84	13867.57	(SAM 6-1b)	0.464514	0.017332	0.405884	0.041298
582	1652X71	Column	DSTL4	-4510.94	-2001647.46	-87014.89	(H1-1b)	0.55574	0.033428	0.022684	0.521819
583	1652X71	Column	DSTL3	-6883.5	1950584.24	11327.55	(H1-1b)	0.559525	0.051009	0.002953	0.508507
584	1652X71	Column	DSTL3	-8368.65	1947685.48	19493.45	(H1-1b)	0.569792	0.062015	0.005082	0.507751
585	1652X71	Column	DSTL3	-9976.08	1935854.56	27859.92	(H1-1b)	0.578646	0.073927	0.007263	0.504667
586	1652X71	Column	DSTL3	-11673.26	1888860.65	33647.05	(H1-1b)	0.578996	0.086503	0.008772	0.492416
587	L50	Brace	DSTL4	-333.23	-13616.44	209.57	(SAM 6-1a)	0.470371	0.247565	0.145556	0.077249
588	L50	Brace	DSTL4	-152	-637.19	7441.58	(SAM 6-1b)	0.19478	0.056462	0.094558	0.04376
589	L50	Beam	DSTL4	139.94	149.98	13696.17	(SAM 6-1b)	0.241626	0.00682	0.156798	0.078009

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
590	L50	Beam	DSTL3	110.54	-384.03	21430.3	(SAM 6-1b)	0.376463	0.005387	0.252502	0.118574
591	L50	Brace	DSTL4	-209.98	-743.83	5774.89	(SAM 6-1b)	0.187042	0.077998	0.076667	0.032377
592	L50	Brace	DSTL4	-323.99	-14093.92	-1657.58	(SAM 6-1a)	0.462574	0.240699	0.131134	0.090741
593	L50	Beam	DSTL4	337.31	-21849.34	21423.79	(SAM 6-1b)	0.519724	0.016438	0.500888	0.002398
594	L50	Beam	DSTL3	406.42	-24410.78	2325.32	(SAM 6-1b)	0.451454	0.019806	0.309471	0.122177
595	L50	Brace	DSTL3	-365.06	-13930.2	7283.82	(SAM 6-1a)	0.517473	0.257124	0.222211	0.038138
596	L50	Brace	DSTL3	-311.85	-14180.85	8178.55	(SAM 6-1a)	0.487312	0.219644	0.233315	0.034353
597	L50	Beam	DSTL4	-97.07	-25219.97	-2724.1	(SAM 6-1b)	0.424938	0.009802	0.260534	0.154602
598	L50	Beam	DSTL4	440.51	-23334.38	19081.67	(SAM 6-1b)	0.535961	0.021468	0.490958	0.023526
599	L50	Brace	DSTL4	-447.16	-13860.49	-630.2	(SAM 6-1a)	0.538081	0.31495	0.140226	0.082906
600	L50	Brace	DSTL4	-146.7	-335.32	7230.56	(SAM 6-1b)	0.184136	0.051663	0.088442	0.04403
601	L120	Brace	DSTL4	-3740.02	-75408.44	176545.11	(SAM 6-1b)	0.346195	0.073225	0.228929	0.044041
602	L120	Brace	DSTL4	-2137.69	-12363.96	52042.11	(SAM 6-1b)	0.117565	0.041853	0.058321	0.01739
603	L120	Brace	DSTL4	-1065.77	18421.71	70210.72	(SAM 6-1b)	0.106575	0.020866	0.046648	0.039061
604	L120	Brace	DSTL4	-359.69	-55359.04	-41025.08	(SAM 6-1b)	0.062583	0.007042	0.01303	0.04251
605	L120	Brace	DSTL4	77.65	-56449.55	-38979.28	(SAM 6-1b)	0.058425	0.000714	0.015655	0.042057
606	L120	Brace	DSTL4	-644.52	17155.99	68725.43	(SAM 6-1b)	0.096822	0.012619	0.046354	0.037849
607	L120	Brace	DSTL4	-1748.44	-14721.8	51262.84	(SAM 6-1b)	0.109875	0.034232	0.059617	0.016026
608	L120	Brace	DSTL4	-3389.01	-78346.36	181167.07	(SAM 6-1b)	0.346548	0.066353	0.235359	0.044836
609	L120	Brace	DSTL4	-16564.56	-60384.49	168869.74	(SAM 6-1a)	0.873633	0.649413	0.180377	0.043843
610	L120	Brace	DSTL4	-16381.15	-102968.12	-780.12	(SAM 6-1a)	0.769736	0.641446	0.086973	0.041317
611	L120	Brace	DSTL4	-16758.61	-85252.64	5990.07	(SAM 6-1a)	0.7716	0.656228	0.083105	0.032268
612	L120	Brace	DSTL4	-16330.86	-9629.06	7858.94	(SAM 6-1a)	0.666496	0.639478	0.025999	0.001019
613	L120	Brace	DSTL4	-16375.3	-43621.59	-32751.99	(SAM 6-1a)	0.695811	0.641218	0.023171	0.031422
614	L120	Brace	DSTL3	-15983.87	-105102.22	-55302.8	(SAM 6-1a)	0.779463	0.665048	0.050347	0.064068
615	L120	Brace	DSTL3	-17579.62	-97346.16	-6346.5	(SAM 6-1a)	0.811937	0.688376	0.082448	0.041112
616	L120	Brace	DSTL3	-18953.69	-1418.93	61935.77	(SAM 6-1a)	0.842744	0.742182	0.079556	0.021006
617	L120	Brace	DSTL3	-18358.38	-12328.13	22234.28	(SAM 6-1a)	0.749119	0.718871	0.024856	0.005392
618	L120	Brace	DSTL3	-17142.12	77958.26	96060.59	(SAM 6-1a)	0.764935	0.671245	0.026064	0.067626
619	L120	Brace	DSTL3	-16578.69	-104003.55	-53113.4	(SAM 6-1a)	0.762679	0.649182	0.050745	0.062751
620	L120	Brace	DSTL3	-15946.12	-44839.06	-30030.27	(SAM 6-1a)	0.680791	0.624413	0.02559	0.030789
621	L120	Brace	DSTL4	-15901.3	-7569.14	10021.15	(SAM 6-1a)	0.650929	0.622657	0.02777	0.000501
622	L120	Brace	DSTL4	-16345.34	-83832.61	7513.35	(SAM 6-1a)	0.753836	0.640045	0.082706	0.031084
623	L120	Brace	DSTL4	-16006.61	-100429.39	51.53	(SAM 6-1a)	0.752134	0.626781	0.085374	0.039978
624	L120	Brace	DSTL4	-16243.67	-57153.75	164380.62	(SAM 6-1a)	0.853683	0.636064	0.174288	0.043331
625	L120	Brace	DSTL4	-2958.79	-56436.93	233564.12	(SAM 6-1b)	0.394573	0.055405	0.261921	0.077247
626	L120	Brace	DSTL4	-1583.03	-5536.26	105278.61	(SAM 6-1b)	0.172964	0.029643	0.099675	0.043646
627	L120	Brace	DSTL4	-812.99	22414.39	110130.43	(SAM 6-1b)	0.152046	0.015224	0.078744	0.058079
628	L120	Brace	DSTL4	-409.03	43207.99	88584.64	(SAM 6-1b)	0.106092	0.007659	0.040672	0.05776
629	L120	Brace	DSTL3	-313.91	18691.14	72077.74	(SAM 6-1b)	0.093604	0.005878	0.047979	0.039747
630	L120	Brace	DSTL4	-331.36	20608.35	103884.87	(SAM 6-1b)	0.135437	0.006205	0.07468	0.054551
631	L120	Brace	DSTL4	-1137.34	-8696.41	100043.3	(SAM 6-1b)	0.158989	0.021298	0.097707	0.039984
632	L120	Brace	DSTL4	-2560.63	-60019.82	235202.65	(SAM 6-1b)	0.390692	0.04795	0.266296	0.076447
633	L120	Brace	DSTL4	-14786.86	-121660.11	193217.77	(SAM 6-1a)	0.831771	0.553789	0.249056	0.028927
634	L120	Brace	DSTL4	-14530.69	-156363.85	23451.48	(SAM 6-1a)	0.743398	0.544196	0.146952	0.05225
635	L120	Brace	DSTL4	-14361.4	-135811.28	24984.46	(SAM 6-1a)	0.716512	0.537855	0.134849	0.044008
636	L120	Brace	DSTL4	-13812.14	-62498.63	24864.36	(SAM 6-1a)	0.611744	0.517285	0.078636	0.015823
637	L120	Brace	DSTL3	-13847.54	-111127.31	-60270.15	(SAM 6-1a)	0.636107	0.51861	0.04957	0.067927
638	L120	Brace	DSTL3	-14354.8	-165158.83	-79126.33	(SAM 6-1a)	0.706674	0.537608	0.075076	0.09599
639	L120	Brace	DSTL3	-14739.83	-162937.49	-116081.3	(SAM 6-1a)	0.702324	0.552028	0.041128	0.109168
640	L120	Brace	DSTL3	-15901.96	-88351.86	-8887.63	(SAM 6-1a)	0.693599	0.595551	0.061318	0.036731
641	L120	Brace	DSTL3	-15741.93	69545.89	85182.64	(SAM 6-1a)	0.676358	0.589557	0.028443	0.058359
642	L120	Brace	DSTL3	-14412.57	-156037.5	-33711.58	(SAM 6-1a)	0.716847	0.539772	0.102846	0.07423
643	L120	Brace	DSTL3	-13855.6	-163394.58	-74002.4	(SAM 6-1a)	0.689509	0.518912	0.077323	0.093274
644	L120	Brace	DSTL3	-13337.86	-112396.32	-54266.99	(SAM 6-1a)	0.620328	0.499522	0.05477	0.066035
645	L120	Brace	DSTL4	-13293.75	-64362.05	31551.37	(SAM 6-1a)	0.596704	0.49787	0.084926	0.013908
646	L120	Brace	DSTL4	-13860.39	-134367.8	31065.87	(SAM 6-1a)	0.698121	0.519092	0.137977	0.041053
647	L120	Brace	DSTL4	-14074.45	-153425.44	28612.66	(SAM 6-1a)	0.724716	0.527108	0.148526	0.049081
648	L120	Brace	DSTL4	-14375.85	-118054.48	191623.39	(SAM 6-1a)	0.813031	0.538396	0.244948	0.029686
649	L100	Brace	DSTL4	-2613.25	-21773.62	164019.16	(SAM 6-1b)	0.456477	0.084142	0.271858	0.100477
650	L100	Brace	DSTL4	-1362.67	2597.19	141541.94	(SAM 6-1b)	0.34826	0.043876	0.202079	0.102305
651	L100	Brace	DSTL4	-681.24	8705.3	36421.47	(SAM 6-1b)	0.094144	0.021935	0.040196	0.032012
652	L100	Brace	DSTL4	-349.25	19124.68	77318.47	(SAM 6-1b)	0.164003	0.011245	0.084268	0.06849
653	L100	Brace	DSTL3	-304.3	7772.83	65367.64	(SAM 6-1b)	0.145251	0.009798	0.083659	0.051894
654	L100	Brace	DSTL3	-424.06	4222.33	81165.91	(SAM 6-1b)	0.18582	0.013654	0.111577	0.060589
655	L100	Brace	DSTL4	-840.65	-1587.37	106122.87	(SAM 6-1b)	0.257624	0.027066	0.156371	0.074186
656	L100	Brace	DSTL4	-2173.83	-25790.79	139409.49	(SAM 6-1b)	0.391443	0.069994	0.241238	0.08021
657	L100	Brace	DSTL4	-11277.64	-101682.46	98974.26	(SAM 6-1a)	0.982445	0.726242	0.255308	0.000895
658	L100	Brace	DSTL4	-11127.18	-113651.79	51217.33	(SAM 6-1a)	0.980102	0.716553	0.223614	0.039935
659	L100	Brace	DSTL4	-11172.71	-103294.57	29471.17	(SAM 6-1a)	0.951374	0.719486	0.184112	0.047776
660	L100	Brace	DSTL4	-10780.81	-63879.45	26202.3	(SAM 6-1a)	0.851226	0.694248	0.131668	0.02531
661	L100	Brace	DSTL3	-10799.39	-90120.22	-48073.68	(SAM 6-1a)	0.854112	0.695444	0.069914	0.088754
662	L100	Brace	DSTL3	-11083.94	-119238.22	-56284.89	(SAM 6-1a)	0.919808	0.713769	0.094084	0.111955
663	L100	Brace	DSTL3	-11307.33	-121500.34	-79975	(SAM 6-1a)	0.917734	0.728153	0.06162	0.127961
664	L100	Brace	DSTL3	-12202.47	-90780.38	-20452.59	(SAM 6-1a)	0.946351	0.785798	0.091512	0.06904
665	L100	Brace	DSTL3	-11967.6	-90721.47	-64964.67	(SAM 6-1a)	0.897953	0.770673	0.029689	0.097391

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
666	L100	Brace	DSTL3	-10969.01	-116644.84	-27946.93	(SAM 6-1a)	0.923266	0.706366	0.125114	0.091785
667	L100	Brace	DSTL3	-10591.09	-117819.49	-50716.17	(SAM 6-1a)	0.887481	0.68203	0.097963	0.107487
668	L100	Brace	DSTL3	-10285.73	-90680.36	-41673.92	(SAM 6-1a)	0.824429	0.662366	0.077077	0.084985
669	L100	Brace	DSTL4	-10256.42	-84685.82	33562.27	(SAM 6-1a)	0.822213	0.660479	0.140626	0.021108
670	L100	Brace	DSTL4	-10687.44	-98936.7	90896.07	(SAM 6-1a)	0.955023	0.688235	0.260927	0.005861
671	L100	Brace	DSTL4	-10652.63	-116158.21	-23654.56	(SAM 6-1a)	0.89791	0.685993	0.122643	0.089274
672	L100	Brace	DSTL4	-10804.51	-97856.49	123581.61	(SAM 6-1a)	0.997349	0.695774	0.284395	0.017181
673	L100	Brace	DSTL4	-2315.86	-14330.02	184079.26	(SAM 6-1b)	0.47947	0.070509	0.289485	0.119476
674	L100	Brace	DSTL4	-1264.63	3867.34	114290.94	(SAM 6-1b)	0.282109	0.038503	0.160246	0.083359
675	L100	Brace	DSTL4	-663.31	14901.02	117822.55	(SAM 6-1b)	0.263023	0.020195	0.149106	0.093721
676	L100	Brace	DSTL4	-380.68	15769.47	100898.39	(SAM 6-1b)	0.217214	0.01159	0.123229	0.082394
677	L100	Brace	DSTL3	-382.16	5034.83	84487.13	(SAM 6-1b)	0.189386	0.011026	0.115185	0.063175
678	L100	Brace	DSTL3	-482.24	6376.72	103167.39	(SAM 6-1b)	0.232281	0.014682	0.140266	0.077311
679	L100	Brace	DSTL4	-578.72	1840.97	125948.4	(SAM 6-1b)	0.287715	0.01762	0.179879	0.090216
680	L100	Brace	DSTL4	-1822.07	-18650.86	161959.35	(SAM 6-1b)	0.419192	0.055475	0.262864	0.100854
681	L100	Brace	DSTL4	-9518.52	-119629.24	111892.59	(SAM 6-1a)	0.879461	0.579602	0.295629	0.00423
682	L100	Brace	DSTL4	-9158.68	-130506.89	62732.49	(SAM 6-1a)	0.855444	0.557703	0.254877	0.042864
683	L100	Brace	DSTL4	-8998.96	-123026.64	41954.82	(SAM 6-1a)	0.818997	0.547966	0.219317	0.051713
684	L100	Brace	DSTL4	-8505.97	-94666.48	34294.26	(SAM 6-1a)	0.730799	0.517946	0.173977	0.036877
685	L100	Brace	DSTL3	-8520.22	-119739.35	-63493.67	(SAM 6-1a)	0.715277	0.518814	0.080471	0.115992
686	L100	Brace	DSTL3	-8780.56	-141987.92	-67368.92	(SAM 6-1a)	0.76969	0.534666	0.102813	0.132211
687	L100	Brace	DSTL3	-9023.93	-141669.1	-86524.55	(SAM 6-1a)	0.76805	0.549486	0.074818	0.143746
688	L100	Brace	DSTL3	-9929.43	-113363.12	-33638.69	(SAM 6-1a)	0.798803	0.604823	0.102774	0.091406
689	L100	Brace	DSTL3	-9642.56	-112395.23	-68970.74	(SAM 6-1a)	0.753926	0.587155	0.053594	0.113177
690	L100	Brace	DSTL3	-8622.37	-136528.19	-37370.57	(SAM 6-1a)	0.767559	0.525034	0.133066	0.109459
691	L100	Brace	DSTL3	-8196.42	-140114.62	-57866.3	(SAM 6-1a)	0.735785	0.499097	0.11167	0.125018
692	L100	Brace	DSTL3	-7902.53	-120170.32	-52851.93	(SAM 6-1a)	0.684233	0.481201	0.093522	0.109509
693	L100	Brace	DSTL4	-7861.53	-95506.26	45742.45	(SAM 6-1a)	0.69971	0.478705	0.188843	0.032162
694	L100	Brace	DSTL4	-8394.72	-121368.68	52359.61	(SAM 6-1a)	0.785082	0.511172	0.22981	0.0441
695	L100	Brace	DSTL4	-8689.5	-128829.49	51071.88	(SAM 6-1a)	0.81346	0.529121	0.235033	0.049305
696	L100	Brace	DSTL4	-8979.05	-115498.8	134270.12	(SAM 6-1a)	0.880681	0.546753	0.32136	0.012568
697	3185X103	Column	DSTL4	-70286.47	903407.06	5573984.12	(H1-1a)	0.590366	0.352941	0.234366	0.037985
698	3185X103	Column	DSTL4	-70176.27	2587300.53	4716716.45	(H1-1a)	0.578587	0.352388	0.198321	0.108787
699	3185X103	Column	DSTL4	-71051.1	2928417.99	3999753.81	(H1-1a)	0.565213	0.356781	0.168176	0.12313
700	3185X103	Column	DSTL4	-71196.4	3134598.6	4032732.98	(H1-1a)	0.572272	0.357511	0.169562	0.131799
701	3185X103	Column	DSTL4	-57049.44	2375216.02	7299954.69	(H1-1a)	0.609248	0.286472	0.306937	0.099869
702	3185X103	Column	DSTL4	-56926.88	3769665.08	6336908.36	(H1-1a)	0.596881	0.285857	0.266445	0.158501
703	3185X103	Column	DSTL4	-57893.06	3923979.11	5646171.51	(H1-1a)	0.579812	0.290708	0.237402	0.164989
704	3185X103	Column	DSTL4	-58302.39	4140690.13	5837202.51	(H1-1a)	0.593677	0.292764	0.245434	0.174101
705	3185X103	Column	DSTL4	-47025.68	3938128.99	9187876.91	(H1-1a)	0.656447	0.236138	0.386318	0.165584
706	3185X103	Column	DSTL4	-46889.31	4999998.78	8277120.16	(H1-1a)	0.642047	0.235453	0.348024	0.210232
707	3185X103	Column	DSTL4	-47668.47	5049585.68	7634303.97	(H1-1a)	0.624225	0.239366	0.320996	0.212317
708	3185X103	Column	DSTL4	-47876.13	5077045.79	7567045.41	(H1-1a)	0.624253	0.240409	0.319009	0.213472
709	3185X103	Column	DSTL4	-38079.91	4610535.65	9886132.23	(H1-1b)	0.6116	0.095609	0.467637	0.218089
710	3185X103	Column	DSTL4	-37942.91	5539327.95	9026877.64	(H1-1b)	0.596242	0.095265	0.426992	0.262023
711	3185X103	Column	DSTL4	-38764.03	5561633.82	8391211.49	(H1-1b)	0.574041	0.097326	0.396923	0.264024
712	3185X103	Column	DSTL4	-39219.01	5510136.97	8048648.88	(H1-1b)	0.559859	0.098469	0.380719	0.260642
713	3185X103	Column	DSTL4	-39047.32	5496082.82	8343497.96	(H1-1b)	0.570636	0.098037	0.394667	0.259977
714	3185X103	Column	DSTL4	-38588.83	5568221.34	8708558.58	(H1-1b)	0.585828	0.096886	0.411935	0.26339
715	3185X103	Column	DSTL4	-37785.77	5517718.45	9411625.93	(H1-1b)	0.610929	0.09487	0.445191	0.261001
716	3185X103	Column	DSTL4	-37923.73	4602607.4	10314968.16	(H1-1b)	0.629507	0.095216	0.487922	0.217714
717	3185X103	Column	DSTL4	-47758.52	5060653.04	7861461.17	(H1-1a)	0.632931	0.239818	0.330547	0.212783
718	3185X103	Column	DSTL4	-47525.06	5038046.23	7920180.98	(H1-1a)	0.633326	0.238646	0.333016	0.211632
719	3185X103	Column	DSTL4	-46784.04	4997213.21	8609110.24	(H1-1a)	0.65347	0.234925	0.361983	0.210115
720	3185X103	Column	DSTL4	-46920.32	3933221.87	9569148.86	(H1-1a)	0.67062	0.235609	0.402349	0.165378
721	3185X103	Column	DSTL4	-58224.98	4134816.99	6059123.67	(H1-1a)	0.600807	0.292375	0.254765	0.173854
722	3185X103	Column	DSTL4	-57818.8	3918157.89	5861411.31	(H1-1a)	0.58678	0.290335	0.246452	0.164745
723	3185X103	Column	DSTL4	-56855.98	3765172.21	6590685.06	(H1-1a)	0.604649	0.285501	0.277115	0.158312
724	3185X103	Column	DSTL4	-56978.83	2375489.32	7607322.35	(H1-1a)	0.621211	0.286118	0.319861	0.099681
725	3185X103	Column	DSTL4	-71136.26	3138179.24	4236868.06	(H1-1a)	0.578899	0.357209	0.178145	0.131949
726	3185X103	Column	DSTL4	-70991.78	2931853.01	4203882.92	(H1-1a)	0.571983	0.356483	0.176758	0.123274
727	3185X103	Column	DSTL4	-70117.97	2590735.76	4959125.5	(H1-1a)	0.587348	0.352095	0.208514	0.108931
728	3185X103	Column	DSTL4	-70228.27	909073.67	5861589.82	(H1-1a)	0.602055	0.352649	0.246459	0.038223
729	3185X103	Column	DSTL3	-63084.57	10958895.58	-147466.67	(H1-1a)	0.777602	0.316777	0.0062	0.460783
730	3185X103	Column	DSTL3	-62928.94	11094525.91	-142571.85	(H1-1a)	0.78252	0.315996	0.005995	0.466486
731	3185X103	Column	DSTL3	-61771.35	10987743.87	-170684.87	(H1-1a)	0.772235	0.310183	0.007177	0.461996
732	3185X103	Column	DSTL3	-61846.65	9446362.47	-230963.81	(H1-1a)	0.707866	0.310561	0.009711	0.397186
733	3185X103	Column	DSTL3	-78588.39	9910080.24	-138639.83	(H1-1a)	0.811354	0.394629	0.005829	0.416684
734	3185X103	Column	DSTL3	-78533.49	9937127.29	-130084.51	(H1-1a)	0.812211	0.394354	0.00547	0.417821
735	3185X103	Column	DSTL3	-77439.65	9936898.6	-153990.94	(H1-1a)	0.806723	0.388861	0.006475	0.417812
736	3185X103	Column	DSTL3	-77522.58	8280546.23	-202985.49	(H1-1a)	0.73755	0.389277	0.008535	0.348168
737	3185X103	Column	DSTL3	-97560.64	8070083.93	-113642.13	(H1-1a)	0.82925	0.489898	0.004778	0.339319
738	3185X103	Column	DSTL3	-97077.13	7732261.76	-98487.39	(H1-1a)	0.812611	0.48747	0.004141	0.325114
739	3185X103	Column	DSTL3	-95596.16	7491972.63	-119266.6	(H1-1a)	0.795084	0.480033	0.005015	0.315011
740	3185X103	Column	DSTL3	-96653.4	5208264.04	-159638.66	(H1-1a)	0.699413	0.480321	0.006712	0.218989
741	3185X103	Column	DSTL3	-121116.83	5842462.51	-97505.6	(H1-1a)	0.853874	0.608185	0.0041	0.245655

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
742	3185X103	Column	DSTL3	-120709.92	5505299.8	-112037.01	(H1-1a)	0.837668	0.606141	0.004711	0.231478
743	3185X103	Column	DSTL3	-119169.05	5151737.72	-131759.66	(H1-1a)	0.815087	0.598404	0.00554	0.216612
744	3185X103	Column	DSTL3	-119216.19	2565875.33	-139995.38	(H1-1a)	0.706697	0.598651	0.005886	0.107886
745	L100	Brace	DSTL4	-1239.1	-13773.22	225830.06	(SAM 6-1b)	0.53392	0.03692	0.347794	0.149206
746	L100	Brace	DSTL4	-672.15	-1417.1	60617	(SAM 6-1b)	0.151766	0.020027	0.090057	0.041682
747	L100	Brace	DSTL4	-454.98	18157.96	119651.01	(SAM 6-1b)	0.257589	0.013556	0.146927	0.097106
748	L100	Brace	DSTL3	-443.16	7061.97	95429.96	(SAM 6-1b)	0.213535	0.013204	0.128177	0.072153
749	L100	Brace	DSTL3	-645.14	-6765.22	35370.9	(SAM 6-1b)	0.100602	0.019222	0.06127	0.020109
750	L100	Brace	DSTL4	-613.6	-17273.44	218940.41	(SAM 6-1b)	0.502586	0.018282	0.342315	0.141988
751	L100	Brace	DSTL4	-8746.99	-138355.69	163514.05	(SAM 6-1a)	0.926561	0.521243	0.38916	0.016158
752	L100	Brace	DSTL4	-8433.6	-151760.79	-28535.22	(SAM 6-1a)	0.780453	0.502566	0.164394	0.113493
753	L100	Brace	DSTL4	-7850.09	-108068.17	43420.1	(SAM 6-1a)	0.71226	0.467795	0.202963	0.041501
754	L100	Brace	DSTL3	-7862.74	-133246.04	-66779.06	(SAM 6-1a)	0.688434	0.468549	0.093604	0.126282
755	L100	Brace	DSTL3	-8202.82	-158573.01	-77360.95	(SAM 6-1a)	0.74721	0.488814	0.110078	0.148317
756	L100	Brace	DSTL3	-8630.45	-136666.46	-60353.11	(SAM 6-1a)	0.736324	0.514297	0.099035	0.122992
757	L100	Brace	DSTL3	-8005.16	-133038.33	-53552.64	(SAM 6-1a)	0.696354	0.477035	0.102823	0.116496
758	L100	Brace	DSTL3	-7508.15	-154806.46	-53783.16	(SAM 6-1a)	0.713197	0.447418	0.134648	0.131131
759	L100	Brace	DSTL3	-7136.5	-134891.18	-48005.3	(SAM 6-1a)	0.659183	0.425272	0.118459	0.115453
760	L100	Brace	DSTL4	-7093.6	-110146.07	62278.46	(SAM 6-1a)	0.682423	0.422715	0.228786	0.030923
761	L100	Brace	DSTL4	-7712.81	-148262.07	-4873.22	(SAM 6-1a)	0.745619	0.459614	0.189556	0.096449
762	L100	Brace	DSTL4	-8100.91	-134779.02	170448.96	(SAM 6-1a)	0.898735	0.482741	0.393286	0.022707
763	L90	Brace	DSTL4	-1398.06	-6883.56	166194.25	(SAM 6-1b)	0.560775	0.05949	0.345403	0.155881
764	L90	Brace	DSTL4	-754.57	1802.36	55123.01	(SAM 6-1b)	0.194178	0.032108	0.106286	0.055783
765	L90	Brace	DSTL4	-519.54	11569.99	95077.9	(SAM 6-1b)	0.292601	0.022107	0.165902	0.104592
766	L90	Brace	DSTL3	-548.44	3992.65	74387.34	(SAM 6-1b)	0.240348	0.023337	0.140252	0.076759
767	L90	Brace	DSTL3	-598.55	-3214.67	32414.74	(SAM 6-1b)	0.125182	0.025469	0.071146	0.028567
768	L90	Brace	DSTL4	-730.37	-10211.32	161361.67	(SAM 6-1b)	0.520603	0.031079	0.341481	0.148043
769	L90	Brace	DSTL4	-6936.62	-104499.57	118225.98	(SAM 6-1a)	0.996912	0.590333	0.394116	0.012463
770	L90	Brace	DSTL4	-6855.22	-112735.13	-15832.02	(SAM 6-1a)	0.875443	0.583404	0.179211	0.112829
771	L90	Brace	DSTL4	-6646.64	-88780.56	32752.64	(SAM 6-1a)	0.840928	0.565655	0.225234	0.05004
772	L90	Brace	DSTL3	-6704.65	-104825.49	-53681.6	(SAM 6-1a)	0.81085	0.570591	0.100923	0.139336
773	L90	Brace	DSTL3	-6804.07	-117323.72	-58536.69	(SAM 6-1a)	0.844509	0.579052	0.11148	0.153977
774	L90	Brace	DSTL3	-7089.43	-106754.93	-47651.15	(SAM 6-1a)	0.843523	0.603338	0.106015	0.134169
775	L90	Brace	DSTL3	-6372.25	-103509.32	-41560.77	(SAM 6-1a)	0.778807	0.542303	0.11042	0.126084
776	L90	Brace	DSTL3	-5986.12	-114323.97	-38998.14	(SAM 6-1a)	0.782468	0.509441	0.138785	0.134241
777	L90	Brace	DSTL3	-5831.42	-105323.47	-36733.47	(SAM 6-1a)	0.750034	0.496276	0.128925	0.124832
778	L90	Brace	DSTL4	-5779.91	-89723.38	49657.07	(SAM 6-1a)	0.782403	0.491893	0.254501	0.03601
779	L90	Brace	DSTL4	-6061.27	-109933.84	5426.39	(SAM 6-1a)	0.81784	0.515837	0.210213	0.091789
780	L90	Brace	DSTL4	-6262.05	-101103.26	123090.16	(SAM 6-1a)	0.948891	0.532924	0.396357	0.01961
781	L80	Brace	DSTL4	-1053.3	-20708.15	0	(SAM 6-1b)	0.163378	0.067601	0.065511	0.030266
782	L80	Brace	DSTL4	-656.66	-20708.17	0	(SAM 6-1b)	0.134786	0.042146	0.062691	0.029949
783	L80	Brace	DSTL4	-482.75	-20708.15	0	(SAM 6-1b)	0.122324	0.030983	0.061529	0.029812
784	L80	Brace	DSTL3	-615.9	-20708.15	0	(SAM 6-1b)	0.13186	0.039529	0.062415	0.029917
785	L80	Brace	DSTL3	-671.63	-20708.23	0	(SAM 6-1b)	0.135859	0.043106	0.062793	0.029961
786	L80	Brace	DSTL1	-572.9	-24159.45	0	(SAM 6-1b)	0.144112	0.036769	0.07248	0.034863
787	L80	Brace	DSTL4	-5680.56	-20708.19	0	(SAM 6-1a)	0.882403	0.729162	0.122547	0.030693
788	L80	Brace	DSTL4	-5597.81	-20708.1	0	(SAM 6-1a)	0.869328	0.718539	0.120173	0.030616
789	L80	Brace	DSTL4	-5470.88	-20708.19	0	(SAM 6-1a)	0.849452	0.702247	0.116706	0.030499
790	L80	Brace	DSTL3	-5489.3	-20708.16	0	(SAM 6-1a)	0.852323	0.704611	0.117197	0.030516
791	L80	Brace	DSTL3	-5500.71	-20708.15	0	(SAM 6-1a)	0.854104	0.706075	0.117503	0.030526
792	L80	Brace	DSTL3	-5651.35	-20708.18	0	(SAM 6-1a)	0.877777	0.725412	0.121696	0.030666
793	L80	Brace	DSTL3	-4920.58	-20708.18	0	(SAM 6-1a)	0.76534	0.63161	0.103731	0.029999
794	L80	Brace	DSTL3	-4643.43	-20708.15	0	(SAM 6-1a)	0.724019	0.596035	0.09823	0.029754
795	L80	Brace	DSTL3	-4550.83	-20708.16	0	(SAM 6-1a)	0.710342	0.584149	0.09652	0.029673
796	L80	Brace	DSTL4	-4550.26	-20708.16	0	(SAM 6-1a)	0.710257	0.584075	0.09651	0.029672
797	L80	Brace	DSTL4	-4769.96	-20708.16	0	(SAM 6-1a)	0.742808	0.612276	0.100667	0.029865
798	L80	Brace	DSTL4	-4986.77	-20708.16	0	(SAM 6-1a)	0.775301	0.640107	0.105137	0.030058
799	L80	Brace	DSTL4	-1013.6	255.34	110268.89	(SAM 6-1b)	0.529738	0.061351	0.312523	0.155864
800	L80	Brace	DSTL4	-668.06	3341.16	65698.36	(SAM 6-1b)	0.314684	0.040436	0.176754	0.097494
801	L80	Brace	DSTL4	-590.15	6354.52	77648.07	(SAM 6-1b)	0.356132	0.035721	0.201706	0.116705
802	L80	Brace	DSTL3	-693.96	1165.49	55937.04	(SAM 6-1b)	0.278135	0.042004	0.155609	0.080521
803	L80	Brace	DSTL3	-813.1	-1096.44	38321.94	(SAM 6-1b)	0.213812	0.049216	0.11211	0.052486
804	L80	Brace	DSTL3	-747.73	4833.59	111476.49	(SAM 6-1b)	0.511137	0.045258	0.301496	0.164383
805	L80	Brace	DSTL4	-4801.4	-78098.33	74815.9	(SAM 6-1a)	0.970998	0.581239	0.385974	0.003785
806	L80	Brace	DSTL4	-4709.96	-81570.21	2590.82	(SAM 6-1a)	0.888193	0.570168	0.218239	0.099786
807	L80	Brace	DSTL4	-4482.68	-71071.22	23760.26	(SAM 6-1a)	0.850077	0.542656	0.247022	0.060399
808	L80	Brace	DSTL3	-4456.64	-80331.54	-44286.79	(SAM 6-1a)	0.796196	0.539503	0.099204	0.157489
809	L80	Brace	DSTL3	-4467.74	-86312.98	-49318.15	(SAM 6-1a)	0.81079	0.540846	0.099036	0.170908
810	L80	Brace	DSTL3	-4599.69	-82097.32	-35141.86	(SAM 6-1a)	0.82334	0.556821	0.119603	0.146916
811	L80	Brace	DSTL3	-3788.49	-79082.38	-33852.18	(SAM 6-1a)	0.714681	0.45862	0.114483	0.141577
812	L80	Brace	DSTL3	-3482.63	-82534.97	-22764.48	(SAM 6-1a)	0.708213	0.421593	0.15396	0.132671
813	L80	Brace	DSTL3	-3369.03	-79829.03	-25232.55	(SAM 6-1a)	0.682626	0.407842	0.142112	0.132672
814	L80	Brace	DSTL4	-3320.78	-71199.82	42815.11	(SAM 6-1a)	0.730336	0.402	0.291897	0.036439
815	L80	Brace	DSTL4	-3661.26	-78088.37	29115.86	(SAM 6-1a)	0.778978	0.443218	0.273755	0.062005
816	L80	Brace	DSTL4	-3944.23	-75111.58	76210.51	(SAM 6-1a)	0.860353	0.477473	0.38123	0.00165
817	2674X93	Column	DSTL4	-31833.07	3280387.86	6799820.76	(H1-1a)	0.713252	0.211974	0.451486	0.217807

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
818	2674X93	Column	DSTL4	-31735.95	3767969.26	6118231.45	(H1-1a)	0.686416	0.211327	0.406231	0.250181
819	2674X93	Column	DSTL4	-32179.58	3761209.71	5896519.22	(H1-1a)	0.678658	0.214281	0.39151	0.249732
820	2674X93	Column	DSTL4	-26220.85	3650379.6	7207577.99	(H1-1b)	0.690792	0.087301	0.53838	0.27267
821	2674X93	Column	DSTL4	-26126.19	4098341.02	6583865.64	(H1-1b)	0.666274	0.086986	0.491791	0.306131
822	2674X93	Column	DSTL4	-26491.16	4052423.58	6241354.04	(H1-1b)	0.644058	0.088201	0.466206	0.302701
823	2674X93	Column	DSTL4	-21571.75	4088989.87	7650019.18	(H1-1b)	0.719757	0.071822	0.571429	0.305433
824	2674X93	Column	DSTL4	-21470.86	4343786.9	7031267.29	(H1-1b)	0.688838	0.071486	0.52521	0.324465
825	2674X93	Column	DSTL4	-21691.9	4248760.26	6697202.56	(H1-1b)	0.664657	0.072222	0.500257	0.317367
826	2674X93	Column	DSTL4	-17535.9	4149569.6	7560367.96	(H1-1b)	0.702587	0.058385	0.564732	0.309958
827	2674X93	Column	DSTL4	-17442.42	4392729.15	7077707.95	(H1-1b)	0.680299	0.058074	0.528679	0.328121
828	2674X93	Column	DSTL4	-17589.13	4289405.7	6795065.59	(H1-1b)	0.65913	0.058895	0.507567	0.320403
829	2674X93	Column	DSTL4	-17317.72	4262960.33	7179627.95	(H1-1b)	0.681361	0.057659	0.536292	0.318428
830	2674X93	Column	DSTL4	-17093.48	4374296.33	7536221.65	(H1-1b)	0.707796	0.056912	0.562928	0.326744
831	2674X93	Column	DSTL4	-17188.74	4153411.19	8167482.55	(H1-1b)	0.741664	0.057229	0.610081	0.310245
832	2674X93	Column	DSTL4	-21394.26	4229811.2	7012143.48	(H1-1b)	0.682928	0.071231	0.523782	0.315951
833	2674X93	Column	DSTL4	-21187.82	4331171.77	7417773.21	(H1-1b)	0.712161	0.070544	0.554081	0.323523
834	2674X93	Column	DSTL4	-21289.96	4092545.8	8174611.22	(H1-1b)	0.753746	0.070884	0.610614	0.305698
835	2674X93	Column	DSTL4	-26279.54	4040720.56	6490784.16	(H1-1b)	0.658607	0.087497	0.484838	0.301827
836	2674X93	Column	DSTL4	-25923.08	4089758.98	6890055.89	(H1-1b)	0.684809	0.08631	0.514662	0.30549
837	2674X93	Column	DSTL4	-26018.48	3851693.98	7632029.41	(H1-1b)	0.718608	0.086627	0.570085	0.287768
838	2674X93	Column	DSTL4	-31986.35	3752142.87	6112648.53	(H1-1a)	0.689217	0.212994	0.40586	0.24913
839	2674X93	Column	DSTL4	-31548.67	3761092.09	6365155.93	(H1-1a)	0.700972	0.21008	0.422626	0.249724
840	2674X93	Column	DSTL4	-31646.42	3281799.53	7114141.92	(H1-1a)	0.730924	0.210731	0.472356	0.217901
841	2674X93	Column	DSTL3	-24270.81	8580040.97	-201103.68	(H1-1b)	0.721882	0.080809	0.015022	0.640898
842	2674X93	Column	DSTL3	-24210.14	8684978.03	-236848.78	(H1-1b)	0.729584	0.080607	0.017692	0.648736
843	2674X93	Column	DSTL3	-24263.69	8401819.69	-309006.75	(H1-1b)	0.708794	0.080785	0.023082	0.627585
844	2674X93	Column	DSTL3	-31427.39	8462202.06	-174098.87	(H1-1a)	0.771254	0.209272	0.01156	0.561863
845	2674X93	Column	DSTL3	-31385.67	8608633.57	-204033.9	(H1-1a)	0.78074	0.208994	0.013547	0.571585
846	2674X93	Column	DSTL3	-31483.3	8303484.14	-273845.2	(H1-1a)	0.761069	0.209445	0.018182	0.551324
847	2674X93	Column	DSTL3	-40156.96	8022922.75	-140211.48	(H1-1a)	0.800179	0.267402	0.00931	0.532696
848	2674X93	Column	DSTL3	-39925.9	8101767.41	-158739.33	(H1-1a)	0.803897	0.265863	0.01054	0.537931
849	2674X93	Column	DSTL3	-39989.31	7545640.38	-209058.7	(H1-1a)	0.767484	0.266285	0.013881	0.501006
850	2674X93	Column	DSTL3	-50361.44	7490175.36	-113465.78	(H1-1a)	0.832733	0.335352	0.007534	0.497323
851	2674X93	Column	DSTL3	-50100.22	7562805.83	-127833.92	(H1-1a)	0.83583	0.333613	0.008474	0.502146
852	2674X93	Column	DSTL3	-50154.59	6731186.8	-160669.38	(H1-1a)	0.781031	0.333975	0.010668	0.446929
853	L80	Brace	DSTL4	-888.76	-474.27	118181.61	(SAM 6-1b)	0.575388	0.067817	0.337342	0.170228
854	L80	Brace	DSTL4	-646.18	-522.74	24390.63	(SAM 6-1b)	0.155042	0.049307	0.071214	0.034521
855	L80	Brace	DSTL3	-747.17	-5204.62	11132.93	(SAM 6-1b)	0.112823	0.057013	0.047312	0.008498
856	L80	Brace	DSTL3	-634.8	947.88	106633.01	(SAM 6-1b)	0.503744	0.048438	0.299653	0.155653
857	L80	Brace	DSTL4	-3284.84	-69503.21	78035.63	(SAM 6-1a)	0.868471	0.5013	0.37646	0.010711
858	L80	Brace	DSTL4	-3241.46	-70458.02	-37918.42	(SAM 6-1a)	0.726144	0.494679	0.09095	0.140515
859	L80	Brace	DSTL3	-3232.29	-73594.96	-44611.03	(SAM 6-1a)	0.728414	0.493281	0.081959	0.153173
860	L80	Brace	DSTL3	-3279.56	-74265.48	-34422.29	(SAM 6-1a)	0.746581	0.500495	0.105839	0.140247
861	L80	Brace	DSTL3	-2275.53	-71371.45	-21268.01	(SAM 6-1a)	0.595593	0.347269	0.128832	0.119493
862	L80	Brace	DSTL3	-2073.24	-72619.24	-11576.75	(SAM 6-1a)	0.58312	0.316398	0.157717	0.109005
863	L80	Brace	DSTL4	-1998.51	-70419.2	-4166.3	(SAM 6-1a)	0.572706	0.304992	0.171036	0.096678
864	L80	Brace	DSTL4	-2213.79	-66641.14	90646.67	(SAM 6-1a)	0.766812	0.337848	0.398254	0.03071
865	L80	Brace	DSTL4	-839.82	-265.53	117226.41	(SAM 6-1b)	0.561936	0.060237	0.333668	0.168032
866	L80	Brace	DSTL4	-623.09	1668.34	38011.01	(SAM 6-1b)	0.205043	0.044691	0.103292	0.057059
867	L80	Brace	DSTL3	-745.11	-6735.36	6222.76	(SAM 6-1b)	0.091833	0.053444	0.037584	0.000806
868	L80	Brace	DSTL3	-656.39	197.64	104707.42	(SAM 6-1b)	0.493891	0.04708	0.295918	0.150893
869	L80	Brace	DSTL4	-2900.89	-72978.11	74621.97	(SAM 6-1a)	0.792699	0.416139	0.374616	0.001944
870	L80	Brace	DSTL4	-2841.61	-72592.96	-35067.32	(SAM 6-1a)	0.646664	0.407635	0.100628	0.1384
871	L80	Brace	DSTL3	-2827.77	-78318.31	-49771.77	(SAM 6-1a)	0.648208	0.40565	0.078032	0.164527
872	L80	Brace	DSTL3	-2864.34	-76012.85	-36755.27	(SAM 6-1a)	0.657628	0.410895	0.102352	0.144381
873	L80	Brace	DSTL3	-1654.31	-73442.06	-21571.47	(SAM 6-1a)	0.490733	0.237315	0.131809	0.121609
874	L80	Brace	DSTL3	-1416.03	-75535.76	-10480.72	(SAM 6-1a)	0.479141	0.203133	0.165663	0.110345
875	L80	Brace	DSTL4	-1321.14	-73558.71	7050.61	(SAM 6-1b)	0.421339	0.09476	0.230474	0.096105
876	L80	Brace	DSTL4	-1501.18	-68291.82	88682.08	(SAM 6-1a)	0.651658	0.229692	0.395989	0.025976
877	L70	Brace	DSTL3	-284.26	1837.59	75560.3	(SAM 6-1b)	0.514104	0.03272	0.310991	0.170392
878	L70	Brace	DSTL3	-207.66	-2150.19	21283.2	(SAM 6-1b)	0.165377	0.023903	0.099522	0.041951
879	L70	Brace	DSTL4	-283.37	-5319.94	6928.09	(SAM 6-1b)	0.090469	0.032618	0.056656	0.001196
880	L70	Brace	DSTL4	-460.48	-73.38	62412.6	(SAM 6-1b)	0.455048	0.053004	0.26522	0.136823
881	L70	Brace	DSTL4	-876.83	33420.27	-45839.51	(SAM 6-1a)	0.521066	0.201859	0.294485	0.024721
882	L70	Brace	DSTL4	-487.73	-45840.1	-26135.12	(SAM 6-1b)	0.299387	0.056142	0.084738	0.158508
883	L70	Brace	DSTL3	-477.27	-49574.99	-32885.4	(SAM 6-1b)	0.308469	0.054937	0.07197	0.181562
884	L70	Brace	DSTL3	-736.93	-43602.61	-22007.17	(SAM 6-1b)	0.321757	0.085057	0.092396	0.144304
885	L70	Brace	DSTL3	-1199.11	-44400.05	-12179.12	(SAM 6-1a)	0.509165	0.276053	0.122462	0.11065
886	L70	Brace	DSTL3	-1002.47	-48029.74	-5229.85	(SAM 6-1a)	0.498673	0.230784	0.163332	0.104557
887	L70	Brace	DSTL4	-919.76	-46683.9	2787.79	(SAM 6-1a)	0.486553	0.211743	0.18852	0.08629
888	L70	Brace	DSTL4	-1253.66	-41653.52	57275.54	(SAM 6-1a)	0.692047	0.288611	0.372974	0.030462
889	L80	Brace	DSTL3	-269.78	3000.8	113946.4	(SAM 6-1b)	0.496881	0.017144	0.313653	0.166084
890	L80	Brace	DSTL3	-150.18	-2146.28	55343.19	(SAM 6-1b)	0.247748	0.009544	0.162708	0.075497
891	L80	Brace	DSTL4	-275.12	2989.65	16035.69	(SAM 6-1b)	0.081592	0.017484	0.03709	0.027018
892	L80	Brace	DSTL4	-451.47	-1050.65	92482.95	(SAM 6-1b)	0.423516	0.028691	0.26511	0.129715
893	L80	Brace	DSTL3	-107.57	-74485.54	60719.21	(SAM 6-1b)	0.408645	0.006836	0.382229	0.019581

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
894	L80	Brace	DSTL4	183.84	-80923.22	-18869.34	(SAM 6-1b)	0.320575	0.0035	0.17536	0.141715
895	L80	Brace	DSTL3	203.21	-86945.51	-55113.54	(SAM 6-1b)	0.296561	0.003868	0.089955	0.201738
896	L80	Brace	DSTL4	-243.65	-78668.74	-41693.42	(SAM 6-1b)	0.291312	0.015484	0.104831	0.170997
897	L80	Brace	DSTL3	-533.97	-74385.16	-20087.03	(SAM 6-1b)	0.321662	0.033933	0.153587	0.134142
898	L80	Brace	DSTL3	-220.78	-85354.06	-13828.06	(SAM 6-1b)	0.357321	0.014031	0.202386	0.140903
899	L80	Brace	DSTL4	-103.39	-81333.03	22369.24	(SAM 6-1b)	0.38356	0.00657	0.293222	0.083768
900	L80	Brace	DSTL4	-569.47	-70730.54	82863.4	(SAM 6-1b)	0.48775	0.036189	0.434316	0.017245
901	L70	Brace	DSTL3	-227.53	2058.42	67958.23	(SAM 6-1b)	0.453316	0.023271	0.278183	0.151862
902	L70	Brace	DSTL5	-103.84	-532.1	35123.51	(SAM 6-1b)	0.236215	0.01062	0.150612	0.074983
903	L70	Brace	DSTL4	-264.2	1448.74	12383.58	(SAM 6-1b)	0.103538	0.027021	0.046524	0.029993
904	L70	Brace	DSTL4	-419.45	-341	58582.79	(SAM 6-1b)	0.418781	0.042899	0.249752	0.126131
905	L70	Brace	DSTL3	-576.53	-44299.53	39312.99	(SAM 6-1b)	0.424101	0.058964	0.354051	0.011087
906	L70	Brace	DSTL3	-854.6	-47929.19	-9160.81	(SAM 6-1b)	0.375427	0.087404	0.164124	0.1239
907	L70	Brace	DSTL4	-859.9	-51614.08	-33139.93	(SAM 6-1b)	0.350408	0.087946	0.078612	0.18385
908	L70	Brace	DSTL4	-712.81	-47506.21	-23585.86	(SAM 6-1b)	0.330017	0.072882	0.10261	0.154526
909	L70	Brace	DSTL4	-525.47	-49218.96	-15008.94	(SAM 6-1b)	0.339108	0.053742	0.145828	0.139538
910	L70	Brace	DSTL4	-651.78	-51615.74	-8227.91	(SAM 6-1b)	0.380525	0.06666	0.184052	0.129812
911	L70	Brace	DSTL5	-479.02	-48551.54	15775.78	(SAM 6-1b)	0.378839	0.048991	0.263142	0.066706
912	L70	Brace	DSTL3	-255.23	-45717.82	47774.8	(SAM 6-1b)	0.425451	0.026104	0.394997	0.00436
913	L70	Brace	DSTL4	-799.11	-1577.34	67912.49	(SAM 6-1b)	0.515003	0.077269	0.295157	0.142576
914	L70	Brace	DSTL5	-160.95	-2012.83	43849.2	(SAM 6-1b)	0.299446	0.015563	0.193792	0.090091
915	L70	Brace	DSTL4	-312.39	1665.48	25394.94	(SAM 6-1b)	0.189022	0.030206	0.100472	0.058343
916	L70	Brace	DSTL4	-1190.36	-447.8	60700.47	(SAM 6-1a)	0.577943	0.230199	0.23284	0.114904
917	L70	Brace	DSTL3	-1324.4	-45473.76	40312.36	(SAM 6-1a)	0.591205	0.256124	0.324557	0.010524
918	L70	Brace	DSTL4	-391.97	-59641.17	-1052.53	(SAM 6-1b)	0.417073	0.037901	0.248206	0.130966
919	L70	Brace	DSTL3	-375.84	-62624.42	-36342.83	(SAM 6-1b)	0.361669	0.036342	0.111882	0.213446
920	L70	Brace	DSTL4	-716.01	-48999.2	-24118.51	(SAM 6-1b)	0.333722	0.069234	0.106536	0.157953
921	L70	Brace	DSTL4	-563	-50868	-16619.41	(SAM 6-1b)	0.346293	0.054439	0.146134	0.14572
922	L70	Brace	DSTL3	-867.55	-61613.58	-15557.4	(SAM 6-1b)	0.446297	0.083887	0.195721	0.166689
923	L70	Brace	DSTL4	-704.66	-60791.46	18759.96	(SAM 6-1b)	0.496853	0.068137	0.337686	0.09103
924	L70	Brace	DSTL3	-1024.21	-46906.36	48484.22	(SAM 6-1b)	0.507098	0.099035	0.406159	0.002904
925	2674X93	Column	DSTL4	-15427.09	4092434.24	7198675.24	(H1-1b)	0.669897	0.051364	0.537715	0.30569
926	2674X93	Column	DSTL4	-15310.29	4288009.83	6895696.23	(H1-1b)	0.657524	0.050975	0.515083	0.320299
927	2674X93	Column	DSTL4	-13519.44	4020409.67	7201233.87	(H1-1b)	0.661071	0.045012	0.537906	0.30031
928	2674X93	Column	DSTL4	-13408.93	4250212.83	6954968.39	(H1-1b)	0.653481	0.044644	0.519511	0.317475
929	2163X82	Column	DSTL4	-12023.98	1860165.26	3633877.39	(H1-1b)	0.588995	0.057047	0.473515	0.24239
930	2163X82	Column	DSTL4	-11964.79	2151997.23	3395004.25	(H1-1b)	0.580542	0.056766	0.442389	0.280418
931	2163X82	Column	DSTL4	-11733.44	1758096.11	3587281.25	(H1-1b)	0.576231	0.055668	0.467443	0.22909
932	2163X82	Column	DSTL4	-11687.36	2146905.38	3436209.08	(H1-1b)	0.583417	0.05545	0.447758	0.279754
933	2163X82	Column	DSTL4	-11977.79	1722128.55	3492286.83	(H1-1b)	0.564214	0.056827	0.455065	0.224403
934	2163X82	Column	DSTL4	-11947.09	2201291.22	3379415.42	(H1-1b)	0.582222	0.056682	0.440357	0.286841
935	2163X82	Column	DSTL4	-12082.83	1593445.37	3154332.82	(H1-1b)	0.517821	0.057326	0.411028	0.207535
936	1652X71	Column	DSTL4	-11991.4	1054434.33	1743935.71	(H1-1b)	0.620136	0.088861	0.454635	0.274886
937	1652X71	Column	DSTL4	-10865.63	1007848.03	1644018.83	(H1-1b)	0.583231	0.080519	0.428587	0.262741
938	2163X82	Column	DSTL4	-10966.29	1584096.22	2890010.97	(H1-1b)	0.481475	0.052028	0.376585	0.206417
939	2163X82	Column	DSTL4	-10819.68	2130521.73	3151057.81	(H1-1b)	0.546979	0.051333	0.410601	0.277619
940	2163X82	Column	DSTL4	-10856.18	1715595.07	3195858.31	(H1-1b)	0.524155	0.051506	0.416439	0.223552
941	2163X82	Column	DSTL4	-10759.72	2092309.22	3188341.89	(H1-1b)	0.547978	0.051048	0.415459	0.27264
942	2163X82	Column	DSTL4	-10809.79	1748685.35	3274895.03	(H1-1b)	0.535049	0.051286	0.426738	0.227864
943	2163X82	Column	DSTL4	-11180.14	2073036.31	3037054.98	(H1-1b)	0.532192	0.053043	0.395746	0.270129
944	2163X82	Column	DSTL4	-11242.48	1811565.14	3169805.79	(H1-1b)	0.531343	0.053339	0.41565	0.236057
945	2674X93	Column	DSTL4	-12691.23	4256252.06	7591114.11	(H1-1b)	0.692331	0.042255	0.567029	0.317926
946	2674X93	Column	DSTL4	-12905.28	4074320.03	8046289.4	(H1-1b)	0.716323	0.042635	0.601026	0.304337
947	2674X93	Column	DSTL4	-14849.51	4266702.35	7309607.66	(H1-1b)	0.681652	0.049441	0.546001	0.318707
948	2674X93	Column	DSTL4	-14967.82	4087204.77	7799360.9	(H1-1b)	0.707566	0.049834	0.582584	0.305299
949	1652X71	Column	DSTL3	-15026.15	1977109.42	39547.33	(H1-1a)	0.680944	0.222699	0.009164	0.458153
950	2163X82	Column	DSTL3	-15129.56	3349959.34	115680.14	(H1-1b)	0.50656	0.071781	0.015074	0.436519
951	2163X82	Column	DSTL3	-14417.46	4201099.93	97121.22	(H1-1b)	0.615976	0.068402	0.012655	0.547427
952	2163X82	Column	DSTL3	-14396.08	3547566.05	135145.16	(H1-1b)	0.530904	0.068301	0.01761	0.462268
953	2163X82	Column	DSTL3	-13832.77	4101824.03	105542.46	(H1-1b)	0.600296	0.065628	0.013753	0.534491
954	2163X82	Column	DSTL3	-13838.99	3598400.95	140400.65	(H1-1b)	0.534907	0.065658	0.018295	0.466892
955	2163X82	Column	DSTL3	-14169.07	4108352.33	81543.46	(H1-1b)	0.602671	0.067224	0.010626	0.535342
956	2163X82	Column	DSTL3	-14197.44	3752786.54	129606.47	(H1-1b)	0.556659	0.067358	0.016888	0.48901
957	2674X93	Column	DSTL3	-16383.85	8417366.54	-140523.61	(H1-1b)	0.683317	0.054483	0.010497	0.628747
958	2674X93	Column	DSTL3	-16454.86	8230993.02	-247678.68	(H1-1b)	0.669889	0.054786	0.018501	0.614825
959	2674X93	Column	DSTL3	-19912.23	8475192.9	-206602.51	(H1-1b)	0.699551	0.066297	0.015432	0.633066
960	2674X93	Column	DSTL3	-20011.47	8305070.76	-293573.53	(H1-1b)	0.687373	0.066627	0.021929	0.620358
961	L90	Beam	DSTL4	-3205.46	-98576.26	12692.78	(SAM 6-1a)	0.547349	0.275068	0.197258	0.075023
962	L90	Beam	DSTL4	-3164.96	-71903.74	7920.12	(SAM 6-1a)	0.470395	0.271595	0.142782	0.056018
963	L90	Beam	DSTL3	-4474.4	-59719.78	7677.95	(SAM 6-1a)	0.551424	0.383961	0.121793	0.04567
964	L90	Beam	DSTL3	-4484.15	-82232.41	3089.4	(SAM 6-1a)	0.605779	0.384797	0.151814	0.069168
965	L90	Beam	DSTL4	-343.85	-29869.64	152.51	(SAM 6-1b)	0.104259	0.014753	0.060257	0.029248
966	L90	Beam	DSTL4	291.73	-20255.36	-6779.79	(SAM 6-1b)	0.057666	0.004388	0.026746	0.026532
967	L90	Beam	DSTL4	-3.86	-20833.5	9838.4	(SAM 6-1b)	0.071839	0.000165	0.060882	0.010791
968	L90	Beam	DSTL4	-732.76	-28947.87	18167.48	(SAM 6-1b)	0.137153	0.03144	0.094957	0.010756
969	L90	Beam	DSTL3	-4878.81	-83118.76	-14941.4	(SAM 6-1a)	0.62623	0.418665	0.121867	0.085698

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
970	L90	Beam	DSTL3	-4782.26	-59021.7	-8763.66	(SAM 6-1a)	0.561801	0.41036	0.091983	0.059437
971	L90	Beam	DSTL4	-3529.4	-71177.68	-8738.73	(SAM 6-1a)	0.485146	0.302868	0.11234	0.069937
972	L90	Beam	DSTL4	-3622.88	-99434.37	-5610.35	(SAM 6-1a)	0.569223	0.310889	0.166583	0.091751
973	L90	Beam	DSTL4	-4492.48	-81887.13	9599.89	(SAM 6-1a)	0.705526	0.47478	0.165906	0.06484
974	L90	Beam	DSTL4	-4478.68	-51340.17	6639.83	(SAM 6-1a)	0.622241	0.473323	0.108527	0.04039
975	L90	Beam	DSTL3	-6775.66	-39417.14	3147.58	(SAM 6-1a)	0.837617	0.716076	0.088364	0.033177
976	L90	Beam	DSTL3	-6829.67	-66913.57	-8949.69	(SAM 6-1a)	0.901891	0.721783	0.111861	0.068247
977	L90	Beam	DSTL4	-1528.97	-30630.3	13297.78	(SAM 6-1b)	0.190362	0.080794	0.091665	0.017904
978	L90	Beam	DSTL4	-1020.79	-23173.32	-197.81	(SAM 6-1b)	0.12583	0.05394	0.048142	0.023748
979	L90	Beam	DSTL4	-1289.9	-23735.96	9041.96	(SAM 6-1b)	0.1516	0.068161	0.068312	0.015127
980	L90	Beam	DSTL4	-1859.57	-29888.94	23658.03	(SAM 6-1b)	0.216991	0.098263	0.111845	0.006884
981	L90	Beam	DSTL3	-7177.34	-67446.6	-19346.57	(SAM 6-1a)	0.932469	0.758525	0.095891	0.078053
982	L90	Beam	DSTL3	-7057.81	-38889.24	-5999.13	(SAM 6-1a)	0.859639	0.745895	0.072827	0.040917
983	L90	Beam	DSTL4	-4793.18	-50867.99	-2627.4	(SAM 6-1a)	0.646852	0.50656	0.092024	0.048268
984	L90	Beam	DSTL4	-4838.05	-82577.14	-921.02	(SAM 6-1a)	0.735258	0.511301	0.149092	0.074865
985	L100	Beam	DSTL4	-5373.23	-95397.79	10917.71	(SAM 6-1a)	0.73195	0.533647	0.143006	0.055298
986	L100	Beam	DSTL4	-6631.6	-50490.4	8822.17	(SAM 6-1a)	0.66765	0.555281	0.084688	0.027682
987	L100	Beam	DSTL3	-9136.53	-32513.33	1439.79	(SAM 6-1a)	0.845996	0.765025	0.059876	0.021095
988	L100	Beam	DSTL3	-9005.15	-72193.15	-19043.11	(SAM 6-1a)	0.89477	0.754024	0.080826	0.059919
989	L100	Beam	DSTL4	-2001.92	-45358	25986.95	(SAM 6-1b)	0.206717	0.083813	0.108201	0.014704
990	L100	Beam	DSTL4	-1517.6	-36784.79	4752.03	(SAM 6-1b)	0.15077	0.063536	0.063465	0.023768
991	L100	Beam	DSTL4	-1814.01	-37365.29	11592.77	(SAM 6-1b)	0.170153	0.075946	0.074925	0.019282
992	L100	Beam	DSTL4	-2332.33	-44646.03	34165.18	(SAM 6-1b)	0.225902	0.097646	0.119941	0.008316
993	L100	Beam	DSTL3	-9341.62	-72862.3	-27259.42	(SAM 6-1a)	0.920393	0.782198	0.072467	0.065728
994	L100	Beam	DSTL3	-9439.47	-31840.95	-5378.41	(SAM 6-1a)	0.867313	0.790391	0.051793	0.025129
995	L100	Beam	DSTL4	-6947.57	-49970.1	1976.87	(SAM 6-1a)	0.689487	0.581738	0.075935	0.031814
996	L100	Beam	DSTL4	-6704.26	-96125.79	2705.49	(SAM 6-1a)	0.75644	0.561365	0.133954	0.061122
997	L120	Beam	DSTL4	-8343.6	-126767.17	15051.35	(SAM 6-1a)	0.594961	0.432932	0.116502	0.045527
998	L120	Beam	DSTL4	-8713.02	-34336.43	11760.95	(SAM 6-1a)	0.503811	0.4521	0.042107	0.009604
999	L120	Beam	DSTL3	-11107.82	-39526.5	99.96	(SAM 6-1a)	0.648127	0.576361	0.053998	0.017767
1000	L120	Beam	DSTL3	-11071.55	-85277.74	-32138.36	(SAM 6-1a)	0.670367	0.57448	0.047934	0.047953
1001	L120	Beam	DSTL4	-2061.23	-80814.69	43695.35	(SAM 6-1b)	0.185397	0.053476	0.11466	0.01726
1002	L120	Beam	DSTL4	-1491.21	-60180.87	10273.02	(SAM 6-1b)	0.126742	0.038688	0.0651	0.022964
1003	L120	Beam	DSTL4	-1769.07	-61010.36	15369.42	(SAM 6-1b)	0.137754	0.045897	0.070798	0.021059
1004	L120	Beam	DSTL4	-2372.27	-79873.7	50480.14	(SAM 6-1b)	0.195749	0.061546	0.120402	0.013801
1005	L120	Beam	DSTL3	-11378.25	-86491.26	-38979.8	(SAM 6-1a)	0.685417	0.590393	0.043792	0.051232
1006	L120	Beam	DSTL3	-11382.58	-40095.76	5291.28	(SAM 6-1a)	0.666163	0.590619	0.0596	0.015944
1007	L120	Beam	DSTL4	-8971.63	-33247.65	6696.64	(SAM 6-1a)	0.514212	0.465519	0.037467	0.011226
1008	L120	Beam	DSTL4	-8659.2	-127430.34	8360.51	(SAM 6-1a)	0.609741	0.449308	0.111919	0.048514
1009	L50	Beam	DSTL6	-683.28	-3922.17	4204.54	(SAM 6-1a)	0.359188	0.2719	0.086252	0.001035
1010	L60	Brace	DSTL3	-1135.88	-11912.25	-8529.32	(SAM 6-1a)	0.664758	0.564406	0.031702	0.068651
1011	L70	Beam	DSTL6	-344.99	-15038.79	303.83	(SAM 6-1b)	0.174916	0.071471	0.067965	0.035479
1012	L80	Brace	DSTL3	-575.61	-34170.29	-7767.19	(SAM 6-1b)	0.244292	0.094788	0.081384	0.068121
1013	L80	Beam	DSTL4	-85.55	-35228.56	445.84	(SAM 6-1b)	0.18782	0.023374	0.103384	0.061062
1014	L60	Brace	DSTL3	-320.48	-9817.81	-3975.25	(SAM 6-1b)	0.173075	0.079622	0.041885	0.051568
1015	L80	Brace	DSTL4	-354.48	-26770.07	3286.59	(SAM 6-1b)	0.193443	0.065482	0.089074	0.038888
1016	L60	Brace	DSTL3	-150.12	-6363.11	-1189.23	(SAM 6-1b)	0.100493	0.037297	0.0351	0.028096
1017	L80	Brace	DSTL4	-280.87	-25329.29	-550.96	(SAM 6-1b)	0.168452	0.051885	0.073815	0.042752
1018	L80	Beam	DSTL4	249.63	-34244.01	1147.97	(SAM 6-1b)	0.162492	0.004752	0.100016	0.057724
1019	L80	Brace	DSTL3	-710.28	-26246.06	3206	(SAM 6-1a)	0.347745	0.233929	0.060306	0.03351
1020	L70	Beam	DSTL6	-480.75	-14390.93	1617.42	(SAM 6-1b)	0.203392	0.099597	0.072778	0.031017
1021	L60	Brace	DSTL3	-416.53	5567.07	1450.19	(SAM 6-1a)	0.25135	0.206966	0.0217	0.022685
1022	L50	Beam	DSTL3	639.83	-5149.59	6529.44	(SAM 6-1b)	0.174571	0.031181	0.135185	0.008205
1023	L50	Beam	DSTL5	-935.65	-1015.89	6522.05	(SAM 6-1a)	0.480532	0.372324	0.079284	0.028924
1024	L60	Brace	DSTL4	-1229.22	-4043.23	-3050.88	(SAM 6-1a)	0.656031	0.610288	0.021086	0.024657
1025	L70	Beam	DSTL5	-1024.36	-7434.54	-1427.86	(SAM 6-1a)	0.478345	0.424433	0.03394	0.019972
1026	L80	Brace	DSTL4	-1157.23	-18906.26	-10004.2	(SAM 6-1a)	0.461153	0.381132	0.037101	0.04292
1027	L80	Beam	DSTL4	548.92	-29651.46	1030.25	(SAM 6-1b)	0.147074	0.01045	0.086705	0.049919
1028	L60	Brace	DSTL4	-477.35	-4928.07	-4435.63	(SAM 6-1a)	0.275486	0.23719	0.006853	0.031444
1029	L80	Brace	DSTL3	-678.93	-17056.17	3515.19	(SAM 6-1a)	0.331038	0.250836	0.059536	0.020665
1030	L50	Beam	DSTL5	-979.6	-491.78	6474.13	(SAM 6-1a)	0.496058	0.389817	0.077171	0.03107
1031	L60	Brace	DSTL4	-1260.02	-3851.28	3400.61	(SAM 6-1a)	0.688112	0.626086	0.059228	0.002795
1032	L70	Beam	DSTL5	-1083.23	-7269.29	912.78	(SAM 6-1a)	0.507076	0.448822	0.043544	0.014711
1033	L80	Brace	DSTL4	-1201.12	-18616.94	11050.6	(SAM 6-1a)	0.499383	0.395591	0.09133	0.012462
1034	L80	Beam	DSTL3	-86.18	-27211.61	-1733.44	(SAM 6-1b)	0.149025	0.023548	0.074594	0.050882
1035	L60	Brace	DSTL4	-493.97	-4842.31	4808.76	(SAM 6-1a)	0.308582	0.245448	0.062532	0.000602
1036	L80	Brace	DSTL3	-709.4	-16905.22	-2926.84	(SAM 6-1a)	0.335772	0.262093	0.043905	0.029775
1037	L80	Brace	DSTL4	-309.02	-25517.75	-1145.69	(SAM 6-1b)	0.174254	0.057086	0.073084	0.044085
1038	L60	Brace	DSTL3	-166.04	-6467.72	-1555.31	(SAM 6-1b)	0.104504	0.041252	0.033401	0.029852
1039	L80	Beam	DSTL4	231.76	-34383.03	1890.79	(SAM 6-1b)	0.16359	0.004412	0.102508	0.056671
1040	L80	Brace	DSTL3	-752.59	-26576.25	-4251.05	(SAM 6-1a)	0.35478	0.247865	0.062184	0.044731
1041	L70	Beam	DSTL6	-535.84	-14577.82	-1103.94	(SAM 6-1a)	0.311492	0.222018	0.055667	0.033807
1042	L60	Brace	DSTL3	-431.58	-10377.39	1101.82	(SAM 6-1a)	0.31558	0.214445	0.070244	0.030891
1043	L50	Beam	DSTL3	677.09	3102.54	6482.44	(SAM 6-1b)	0.129114	0.032996	0.039122	0.056995
1044	L50	Beam	DSTL6	-641.33	-4256.32	3634.86	(SAM 6-1a)	0.343147	0.255206	0.084307	0.003635
1045	L60	Brace	DSTL3	-1015.84	-12519.97	1379.87	(SAM 6-1a)	0.636135	0.504759	0.09364	0.037736

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
1046	L70	Beam	DSTL6	-240.59	-15149.97	60.04	(SAM 6-1b)	0.152432	0.049643	0.066413	0.036178
1047	L80	Brace	DSTL3	-530.45	-34386.06	6858.55	(SAM 6-1b)	0.255464	0.087352	0.123216	0.044896
1048	L80	Beam	DSTL3	532.34	-37621.88	210.23	(SAM 6-1b)	0.182296	0.010134	0.106911	0.065251
1049	L60	Brace	DSTL3	-293.35	-9877.72	3651.07	(SAM 6-1b)	0.18999	0.07288	0.093706	0.023404
1050	L80	Brace	DSTL4	-307.04	-26906.56	-3877.64	(SAM 6-1b)	0.17621	0.056719	0.068808	0.050683
1051	L50	Beam	DSTL6	-501.57	-7794.53	3691.98	(SAM 6-1b)	0.242547	0.083994	0.134345	0.024208
1052	L60	Brace	DSTL3	-1026.05	-15478.81	9712.22	(SAM 6-1a)	0.661123	0.481342	0.160161	0.01962
1053	L60	Beam	DSTL6	-189.49	-12549.35	397.77	(SAM 6-1b)	0.197915	0.061212	0.089493	0.047209
1054	L80	Brace	DSTL3	-470.73	-41924.23	9958.14	(SAM 6-1b)	0.270882	0.058856	0.151168	0.050858
1055	L60	Beam	DSTL6	-105.74	-14744.84	274.07	(SAM 6-1b)	0.251587	0.076854	0.108535	0.066197
1056	L80	Brace	DSTL3	-265.1	-13619.77	5845.92	(SAM 6-1b)	0.223859	0.062181	0.13285	0.028628
1057	L80	Brace	DSTL4	-270.16	-34144.53	-7414.69	(SAM 6-1b)	0.189385	0.044493	0.078002	0.06689
1058	L50	Beam	DSTL4	129.45	640.48	16829.8	(SAM 6-1b)	0.32456	0.005309	0.210542	0.10771
1059	L50	Beam	DSTL3	116.72	48.87	24228.65	(SAM 6-1b)	0.419873	0.005688	0.279882	0.134303
1060	L50	Brace	DSTL4	-228.9	-415.34	6557.35	(SAM 6-1b)	0.20162	0.08061	0.081733	0.039278
1061	L50	Brace	DSTL4	-437.83	-14431.93	-1580.1	(SAM 6-1a)	0.536233	0.308382	0.136165	0.091686
1062	L50	Beam	DSTL4	424.86	-24147.35	24292.38	(SAM 6-1b)	0.582199	0.020705	0.560692	0.000802
1063	L50	Beam	DSTL5	-756.88	-27202.06	2870.56	(SAM 6-1b)	0.546165	0.066093	0.347958	0.132114
1064	L60	Brace	DSTL4	-1005.73	-29944.44	18622.28	(SAM 6-1a)	0.64806	0.32498	0.28777	0.03531
1065	L60	Brace	DSTL4	-1164.92	-31381.37	18570.47	(SAM 6-1a)	0.71219	0.376419	0.295579	0.040192
1066	L50	Beam	DSTL4	1152.45	-28888.97	-1613.36	(SAM 6-1b)	0.537459	0.056162	0.315716	0.16558
1067	L50	Beam	DSTL6	-1452.13	-26606.75	26041.22	(SAM 6-1a)	0.798534	0.253611	0.54224	0.002683
1068	L70	Brace	DSTL3	-1654.42	-57166.34	4878.01	(SAM 6-1a)	0.619892	0.288558	0.23251	0.098825
1069	L70	Brace	DSTL4	-844.12	-1408.34	40830.88	(SAM 6-1b)	0.336721	0.073614	0.178977	0.08413
1070	L50	Beam	DSTL3	-488.15	-2525.65	0	(SAM 6-1b)	0.08764	0.042627	0.03109	0.013923
1071	L50	Beam	DSTL3	-631.65	-2525.65	0	(SAM 6-1b)	0.100825	0.055158	0.031681	0.013987
1072	L70	Brace	DSTL4	-1021.24	-1317.28	39696.86	(SAM 6-1b)	0.344276	0.08906	0.173085	0.082131
1073	L70	Brace	DSTL3	-1842.35	-57823.04	4490.1	(SAM 6-1a)	0.655515	0.321337	0.233715	0.100463
1074	L50	Beam	DSTL6	-1594.92	-27475.79	31505.64	(SAM 6-1a)	0.905597	0.278549	0.607655	0.019392
1075	L50	Beam	DSTL4	250.32	-8677.39	7136.91	(SAM 6-1b)	0.205191	0.012199	0.183051	0.009941
1076	L50	Beam	DSTL3	42.83	-9004.48	4184.58	(SAM 6-1b)	0.185856	0.002087	0.152664	0.031105
1077	L50	Brace	DSTL4	-223.53	-6135.22	-586.56	(SAM 6-1a)	0.423052	0.300551	0.078829	0.043671
1078	L50	Brace	DSTL3	-222.15	-8519.38	1276.57	(SAM 6-1a)	0.467987	0.298687	0.122354	0.046945
1079	L50	Brace	DSTL3	-283.34	-6655.02	-696.4	(SAM 6-1a)	0.637566	0.49959	0.086584	0.051393
1080	L50	Brace	DSTL4	-309.18	-4356.27	1651.7	(SAM 6-1a)	0.657069	0.545141	0.091163	0.020765
1081	L70	Brace	DSTL1	-33.56	-18137.05	8275.6	(SAM 6-1b)	0.142146	0.006381	0.112551	0.023214
1082	L70	Brace	DSTL3	33.97	-22251.58	5103.85	(SAM 6-1b)	0.1565	0.000845	0.115394	0.040262
1083	L80	Brace	DSTL3	-203.56	-19991.51	-3664.37	(SAM 6-1b)	0.115671	0.030406	0.047737	0.037526
1084	L80	Brace	DSTL4	-226.76	-11150.98	5432.85	(SAM 6-1b)	0.091793	0.033868	0.048683	0.009243
1085	L60	Beam	DSTL4	113.22	-852.15	8842.95	(SAM 6-1b)	0.095226	0.003832	0.064943	0.026451
1086	L80	Brace	DSTL3	-199.39	-8359.5	12115.98	(SAM 6-1b)	0.094949	0.02978	0.059453	0.005715
1087	L60	Beam	DSTL3	74.51	-911.05	9574.54	(SAM 6-1b)	0.100484	0.002521	0.070238	0.027724
1088	L60	Beam	DSTL3	-130.05	-10121.93	11297.85	(SAM 6-1b)	0.159979	0.012479	0.14364	0.00386
1089	L80	Brace	DSTL4	-272.99	-21525.46	-283.91	(SAM 6-1b)	0.137587	0.040773	0.062103	0.034712
1090	L70	Beam	DSTL3	-56.59	-15025.37	21.93	(SAM 6-1b)	0.111643	0.011723	0.064149	0.035771
1091	L50	Brace	DSTL3	-134.13	-5800.6	4350.73	(SAM 6-1a)	0.333999	0.212598	0.111049	0.010351
1092	L60	Beam	DSTL3	-133.78	7486.36	11077.75	(SAM 6-1b)	0.098474	0.012837	0.024219	0.061418
1093	L80	Brace	DSTL4	-280.87	-22039.33	-96.04	(SAM 6-1b)	0.141299	0.04195	0.064109	0.03524
1094	L70	Beam	DSTL3	-58.39	-15361.7	571.49	(SAM 6-1b)	0.115404	0.012097	0.067993	0.035314
1095	L50	Beam	DSTL4	-26.7	-2913.68	443	(SAM 6-1b)	0.071564	0.014811	0.03969	0.017063
1096	L70	Beam	DSTL1	12.64	-9900.42	-9.83	(SAM 6-1b)	0.0656	0.000314	0.041722	0.023564
1100	L70	Beam	DSTL4	-415.99	-16202.68	3209.7	(SAM 6-1b)	0.205571	0.08618	0.087755	0.031636
1101	L70	Beam	DSTL4	-419.78	-16256.05	2822.52	(SAM 6-1b)	0.205699	0.086965	0.085568	0.033166
1102	L70	Beam	DSTL4	-446.07	-12277.6	1713.43	(SAM 6-1b)	0.183715	0.092413	0.065384	0.025917
1103	L70	Beam	DSTL3	-129.36	-12503.89	1661.66	(SAM 6-1b)	0.114206	0.026799	0.061401	0.026005
1104	L70	Beam	DSTL3	-126.99	-12483.71	1068.61	(SAM 6-1b)	0.112456	0.026309	0.058783	0.027363
1105	L70	Beam	DSTL3	-441.78	-12307.89	2313.5	(SAM 6-1b)	0.184052	0.091523	0.067975	0.024554
1109	L70	Beam	DSTL4	-398.96	-14563.53	-2439.69	(SAM 6-1b)	0.164474	0.069667	0.054963	0.039943
1110	L70	Beam	DSTL4	-401.7	-14613.54	-4008.61	(SAM 6-1b)	0.162325	0.070044	0.04858	0.043701
1111	L70	Beam	DSTL3	-469.33	-9438.81	3018.82	(SAM 6-1b)	0.154156	0.081838	0.056889	0.015428
1112	L70	Beam	DSTL3	-53.39	-17188.83	-791.12	(SAM 6-1b)	0.120712	0.009309	0.069632	0.041771
1113	L70	Beam	DSTL3	-45.16	-17146.64	-2359.78	(SAM 6-1b)	0.11594	0.007874	0.062765	0.045301
1114	L70	Beam	DSTL3	-465.54	-9403.39	1462.66	(SAM 6-1b)	0.15024	0.081177	0.050088	0.018975
1117	L60	Brace	DSTL3	-64.27	-11995.44	7960.06	(SAM 6-1b)	0.175854	0.024565	0.135117	0.016171
1118	L80	Beam	DSTL4	-549.1	-8560.83	-593.46	(SAM 6-1a)	0.380543	0.293783	0.055331	0.03143
1119	L60	Beam	DSTL4	-550.76	-8604	-2371.56	(SAM 6-1a)	0.37717	0.29467	0.045006	0.037494
1120	L80	Beam	DSTL3	-613.04	-9270.07	2265.04	(SAM 6-1a)	0.42993	0.32799	0.077618	0.024323
1121	L60	Beam	DSTL3	-115.01	-13678.25	244.23	(SAM 6-1b)	0.176071	0.030767	0.09476	0.050543
1122	L60	Beam	DSTL3	-91.7	-13667.31	-1525.39	(SAM 6-1b)	0.164133	0.024531	0.082513	0.057089
1123	L60	Beam	DSTL3	-609.85	-9205.31	504.2	(SAM 6-1a)	0.422927	0.326286	0.066675	0.029966
1124	L60	Brace	DSTL3	-57.34	-11786.74	8868.83	(SAM 6-1b)	0.16781	0.021916	0.126247	0.019648
1125	L60	Beam	DSTL3	43.47	-924.33	12710.89	(SAM 6-1b)	0.133767	0.001471	0.091336	0.04096
1126	L60	Beam	DSTL3	51.92	-1313.61	10201.19	(SAM 6-1b)	0.109775	0.001757	0.077132	0.030886
1127	L60	Beam	DSTL4	-827.31	-7120.86	633.66	(SAM 6-1a)	0.435952	0.359408	0.054637	0.021907
1128	L60	Beam	DSTL4	-826.65	-7147.05	-2593.04	(SAM 6-1a)	0.427022	0.359117	0.035485	0.03242
1129	L60	Beam	DSTL3	-914.35	-12853.66	3069.66	(SAM 6-1a)	0.53408	0.397217	0.104251	0.032611

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
970	L90	Beam	DSTL3	-4782.26	-59021.7	-8763.86	(SAM 6-1a)	0.561601	0.41038	0.091983	0.059437
971	L90	Beam	DSTL4	-3529.4	-71177.68	-8738.73	(SAM 6-1a)	0.485146	0.302868	0.11234	0.069937
972	L90	Beam	DSTL4	-3622.88	-99434.37	-5610.35	(SAM 6-1a)	0.569223	0.310889	0.166583	0.091751
973	L90	Beam	DSTL4	-4492.48	-81887.13	9599.89	(SAM 6-1a)	0.705526	0.47478	0.165906	0.06464
974	L90	Beam	DSTL4	-4478.68	-51340.17	6639.83	(SAM 6-1a)	0.622241	0.473323	0.108527	0.04039
975	L90	Beam	DSTL3	-6775.66	-39417.14	3147.58	(SAM 6-1a)	0.837617	0.716076	0.088364	0.033177
976	L90	Beam	DSTL3	-6829.67	-66913.57	-8949.69	(SAM 6-1a)	0.901891	0.721783	0.111861	0.068247
977	L90	Beam	DSTL4	-1528.97	-30630.3	13297.78	(SAM 6-1b)	0.190362	0.080794	0.091665	0.017904
978	L90	Beam	DSTL4	-1020.79	-23173.32	-197.81	(SAM 6-1b)	0.12583	0.05394	0.048142	0.023748
979	L90	Beam	DSTL4	-1289.9	-23735.96	9041.96	(SAM 6-1b)	0.1516	0.068161	0.068312	0.015127
980	L90	Beam	DSTL4	-1859.57	-29888.94	23658.03	(SAM 6-1b)	0.216991	0.098263	0.111845	0.006884
981	L90	Beam	DSTL3	-7177.34	-67448.6	-19346.57	(SAM 6-1a)	0.932469	0.758525	0.095891	0.078053
982	L90	Beam	DSTL3	-7057.81	-38889.24	-5999.13	(SAM 6-1a)	0.859639	0.745895	0.072827	0.040917
983	L90	Beam	DSTL4	-4793.18	-50867.99	-2627.4	(SAM 6-1a)	0.646852	0.50656	0.092024	0.048268
984	L90	Beam	DSTL4	-4838.05	-62577.14	-921.02	(SAM 6-1a)	0.735258	0.511301	0.149092	0.074865
985	L100	Beam	DSTL4	-6373.23	-95397.79	10917.71	(SAM 6-1a)	0.73195	0.533647	0.143006	0.055298
986	L100	Beam	DSTL4	-6631.6	-50490.4	8822.17	(SAM 6-1a)	0.66765	0.555281	0.084688	0.027682
987	L100	Beam	DSTL3	-9136.53	-32513.33	1439.79	(SAM 6-1a)	0.845996	0.765025	0.059876	0.021095
988	L100	Beam	DSTL3	-9005.15	-72193.15	-19043.11	(SAM 6-1a)	0.89477	0.754024	0.080826	0.059919
989	L100	Beam	DSTL4	-2001.92	-45358	25986.95	(SAM 6-1b)	0.206717	0.083813	0.108201	0.014704
990	L100	Beam	DSTL4	-1517.6	-36784.79	4752.03	(SAM 6-1b)	0.15077	0.063536	0.063465	0.023768
991	L100	Beam	DSTL4	-1814.01	-37365.29	11592.77	(SAM 6-1b)	0.170153	0.075946	0.074925	0.019282
992	L100	Beam	DSTL4	-2332.33	-44646.03	34165.18	(SAM 6-1b)	0.225902	0.097646	0.119941	0.008316
993	L100	Beam	DSTL3	-9341.62	-72862.3	-27259.42	(SAM 6-1a)	0.920393	0.782198	0.072467	0.065728
994	L100	Beam	DSTL3	-9439.47	-31840.95	-5378.41	(SAM 6-1a)	0.867313	0.790391	0.051793	0.025129
995	L100	Beam	DSTL4	-6947.57	-49970.1	1976.87	(SAM 6-1a)	0.689487	0.581738	0.075935	0.031814
996	L100	Beam	DSTL4	-6704.26	-96125.79	2705.49	(SAM 6-1a)	0.75644	0.561365	0.133954	0.061122
997	L120	Beam	DSTL4	-8343.6	-126767.17	15051.35	(SAM 6-1a)	0.594961	0.432932	0.116502	0.045527
998	L120	Beam	DSTL4	-8713.02	-34336.43	11760.95	(SAM 6-1a)	0.503811	0.4521	0.042107	0.009604
999	L120	Beam	DSTL3	-11107.82	-39526.5	99.96	(SAM 6-1a)	0.648127	0.576361	0.053998	0.017767
1000	L120	Beam	DSTL3	-11071.55	-85277.74	-32138.36	(SAM 6-1a)	0.670367	0.57448	0.047934	0.047953
1001	L120	Beam	DSTL4	-2061.23	-80814.69	43695.35	(SAM 6-1b)	0.185397	0.053476	0.11466	0.01726
1002	L120	Beam	DSTL4	-1491.21	-60180.87	10273.02	(SAM 6-1b)	0.126742	0.038688	0.0651	0.022954
1003	L120	Beam	DSTL4	-1769.07	-61010.36	15369.42	(SAM 6-1b)	0.137754	0.045897	0.070798	0.021059
1004	L120	Beam	DSTL4	-2372.27	-79873.7	50480.14	(SAM 6-1b)	0.195749	0.061546	0.120402	0.013801
1005	L120	Beam	DSTL3	-11378.25	-86491.26	-38979.8	(SAM 6-1a)	0.685417	0.590393	0.043792	0.051232
1006	L120	Beam	DSTL3	-11382.58	-40095.76	5291.28	(SAM 6-1a)	0.666163	0.590619	0.0596	0.015944
1007	L120	Beam	DSTL4	-8971.63	-33247.65	6696.64	(SAM 6-1a)	0.514212	0.465519	0.037467	0.011226
1008	L120	Beam	DSTL4	-8659.2	-127430.34	8360.51	(SAM 6-1a)	0.609741	0.449308	0.111919	0.048514
1009	L50	Beam	DSTL6	-683.28	-3922.17	4204.54	(SAM 6-1a)	0.359188	0.2719	0.086252	0.001035
1010	L60	Brace	DSTL3	-1135.88	-11912.25	-8529.32	(SAM 6-1a)	0.684758	0.564406	0.031702	0.068651
1011	L70	Beam	DSTL6	-344.99	-15038.79	303.83	(SAM 6-1b)	0.174916	0.071471	0.067965	0.035479
1012	L80	Brace	DSTL3	-575.61	-34170.29	-7767.19	(SAM 6-1b)	0.244292	0.094788	0.081384	0.068121
1013	L80	Beam	DSTL4	-85.55	-35228.56	445.84	(SAM 6-1b)	0.18782	0.023374	0.103384	0.061062
1014	L60	Brace	DSTL3	-320.48	-9817.81	-3975.25	(SAM 6-1b)	0.173075	0.079622	0.041885	0.051568
1015	L80	Brace	DSTL4	-354.48	-26770.07	3286.59	(SAM 6-1b)	0.193443	0.065482	0.089074	0.038888
1016	L60	Brace	DSTL3	-150.12	-6363.11	-1169.23	(SAM 6-1b)	0.100493	0.037297	0.0351	0.028096
1017	L80	Brace	DSTL4	-280.87	-25329.29	-550.96	(SAM 6-1b)	0.168452	0.051885	0.073815	0.042752
1018	L80	Beam	DSTL4	249.63	-34244.01	1147.97	(SAM 6-1b)	0.162492	0.004752	0.100016	0.057724
1019	L80	Brace	DSTL3	-710.28	-26246.06	3208	(SAM 6-1a)	0.347745	0.233929	0.060306	0.03351
1020	L70	Beam	DSTL6	-480.75	-14390.93	1617.42	(SAM 6-1b)	0.203392	0.099597	0.072778	0.031017
1021	L60	Brace	DSTL3	-416.53	5567.07	1450.19	(SAM 6-1a)	0.25135	0.206966	0.0217	0.022685
1022	L50	Beam	DSTL3	639.83	-5149.59	6529.44	(SAM 6-1b)	0.174571	0.031181	0.135165	0.008205
1023	L50	Beam	DSTL5	-935.65	-1015.89	6522.05	(SAM 6-1a)	0.480532	0.372324	0.079284	0.028924
1024	L60	Brace	DSTL4	-1228.22	-4043.23	-3060.88	(SAM 6-1a)	0.656031	0.610288	0.021086	0.024657
1025	L70	Beam	DSTL5	-1024.36	-7434.54	-1427.86	(SAM 6-1a)	0.478345	0.424433	0.03394	0.019972
1026	L80	Brace	DSTL4	-1157.23	-18906.26	-10004.2	(SAM 6-1a)	0.461153	0.381132	0.037101	0.04292
1027	L80	Beam	DSTL4	548.92	-29651.46	1030.25	(SAM 6-1b)	0.147074	0.01045	0.086705	0.049919
1028	L60	Brace	DSTL4	-477.35	-4928.07	-4435.63	(SAM 6-1a)	0.275486	0.23719	0.006853	0.031444
1029	L80	Brace	DSTL3	-678.93	-17056.17	3515.19	(SAM 6-1a)	0.331038	0.250836	0.059536	0.020665
1030	L50	Beam	DSTL5	-979.6	-491.78	6474.13	(SAM 6-1a)	0.496058	0.389817	0.077171	0.03107
1031	L60	Brace	DSTL4	-1260.02	-3851.28	3400.61	(SAM 6-1a)	0.688112	0.626088	0.059228	0.002795
1032	L70	Beam	DSTL5	-1083.23	-7269.29	912.76	(SAM 6-1a)	0.507076	0.448822	0.043544	0.014711
1033	L60	Brace	DSTL4	-1201.12	-18616.94	11050.6	(SAM 6-1a)	0.499383	0.395591	0.09133	0.012462
1034	L80	Beam	DSTL3	-86.16	-27211.61	-1733.44	(SAM 6-1b)	0.149025	0.023548	0.074594	0.050882
1035	L60	Brace	DSTL4	-493.97	-4842.31	4808.76	(SAM 6-1a)	0.308582	0.245448	0.062532	0.000602
1036	L80	Brace	DSTL3	-709.4	-16905.22	-2926.84	(SAM 6-1a)	0.335772	0.262093	0.043905	0.029775
1037	L80	Brace	DSTL4	-309.02	-25517.75	-1145.69	(SAM 6-1b)	0.174254	0.057086	0.073084	0.044085
1038	L60	Brace	DSTL3	-166.04	-6467.72	-1555.31	(SAM 6-1b)	0.104504	0.041252	0.033401	0.029852
1039	L80	Beam	DSTL4	231.76	-34383.03	1890.79	(SAM 6-1b)	0.16359	0.004412	0.102508	0.056671
1040	L80	Brace	DSTL3	-752.59	-26576.25	-4251.05	(SAM 6-1a)	0.35478	0.247865	0.062184	0.044731
1041	L70	Beam	DSTL6	-535.84	-14577.82	-1103.94	(SAM 6-1a)	0.311492	0.222018	0.055667	0.033807
1042	L60	Brace	DSTL3	-431.58	-10377.39	1101.82	(SAM 6-1a)	0.31558	0.214445	0.070244	0.030891
1043	L50	Beam	DSTL3	677.09	3102.54	6482.44	(SAM 6-1b)	0.129114	0.032996	0.039122	0.056995
1044	L50	Beam	DSTL6	-641.33	-4256.32	3634.86	(SAM 6-1a)	0.343147	0.255206	0.084307	0.003635
1045	L60	Brace	DSTL3	-1015.84	-12519.97	1379.87	(SAM 6-1a)	0.636135	0.504759	0.09364	0.037736

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
1046	L70	Beam	DSTL6	-240.59	-15149.97	60.04	(SAM 6-1b)	0.152432	0.049843	0.066413	0.036176
1047	L80	Brace	DSTL3	-530.45	-34386.06	6858.55	(SAM 6-1b)	0.255464	0.087352	0.123216	0.044896
1048	L80	Beam	DSTL3	532.34	-37621.88	210.23	(SAM 6-1b)	0.182296	0.010134	0.106911	0.065251
1049	L60	Brace	DSTL3	-293.35	-9877.72	3651.07	(SAM 6-1b)	0.18999	0.07288	0.093706	0.023404
1050	L80	Brace	DSTL4	-307.04	-26906.56	-3877.64	(SAM 6-1b)	0.17621	0.056719	0.068808	0.050683
1051	L50	Beam	DSTL6	-501.57	-7794.53	3691.98	(SAM 6-1b)	0.242547	0.083994	0.134345	0.024208
1052	L60	Brace	DSTL3	-1026.05	-15478.81	9712.22	(SAM 6-1a)	0.661123	0.481342	0.160161	0.01962
1053	L60	Beam	DSTL6	-189.49	-12548.35	397.77	(SAM 6-1b)	0.197915	0.061212	0.089493	0.047209
1054	L80	Brace	DSTL3	-470.73	-41924.23	9958.14	(SAM 6-1b)	0.270682	0.058856	0.151168	0.050658
1055	L60	Beam	DSTL6	-105.74	-14744.84	274.07	(SAM 6-1b)	0.251587	0.076854	0.108535	0.066197
1056	L60	Brace	DSTL3	-285.1	-13619.77	5845.92	(SAM 6-1b)	0.223859	0.062181	0.13285	0.028828
1057	L80	Brace	DSTL4	-270.16	-34144.53	-7414.69	(SAM 6-1b)	0.189385	0.044493	0.078002	0.06689
1058	L50	Beam	DSTL4	129.45	640.48	18829.8	(SAM 6-1b)	0.32456	0.006309	0.210542	0.10771
1059	L50	Beam	DSTL3	116.72	48.87	24228.65	(SAM 6-1b)	0.419873	0.005688	0.279882	0.134303
1060	L50	Brace	DSTL4	-228.9	-415.34	6557.35	(SAM 6-1b)	0.20162	0.08061	0.061733	0.039278
1061	L50	Brace	DSTL4	-437.83	-14431.93	-1580.1	(SAM 6-1a)	0.536233	0.308382	0.136165	0.091686
1062	L50	Beam	DSTL4	424.86	-24147.35	24292.38	(SAM 6-1b)	0.582199	0.020705	0.560692	0.000802
1063	L50	Beam	DSTL5	-756.88	-27202.06	2870.56	(SAM 6-1b)	0.546165	0.066093	0.347958	0.132114
1064	L60	Brace	DSTL4	-1005.73	-29944.44	18622.28	(SAM 6-1a)	0.64806	0.32498	0.28777	0.03531
1065	L60	Brace	DSTL4	-1164.92	-31381.37	18570.47	(SAM 6-1a)	0.71219	0.376419	0.295579	0.040192
1066	L50	Beam	DSTL4	1152.45	-28868.97	-1613.36	(SAM 6-1b)	0.537459	0.056162	0.315716	0.16558
1067	L50	Beam	DSTL6	-1452.13	-26606.75	26041.22	(SAM 6-1a)	0.798534	0.253611	0.54224	0.002683
1068	L70	Brace	DSTL3	-1654.42	-57166.34	4578.01	(SAM 6-1a)	0.619892	0.288558	0.23251	0.098825
1069	L70	Brace	DSTL4	-844.12	-1408.34	40830.88	(SAM 6-1b)	0.336721	0.073614	0.178977	0.08413
1070	L50	Beam	DSTL3	-488.15	-2525.65	0	(SAM 6-1b)	0.08764	0.042627	0.03109	0.013923
1071	L50	Beam	DSTL3	-631.65	-2525.65	0	(SAM 6-1b)	0.100825	0.055158	0.031681	0.013987
1072	L70	Brace	DSTL4	-1021.24	-1317.28	39696.86	(SAM 6-1b)	0.344276	0.08906	0.173085	0.082131
1073	L70	Brace	DSTL3	-1842.35	-57823.04	4490.1	(SAM 6-1a)	0.655515	0.321337	0.233715	0.100463
1074	L50	Beam	DSTL6	-1594.92	-27475.79	31505.64	(SAM 6-1a)	0.905597	0.278549	0.607656	0.019392
1075	L50	Beam	DSTL4	250.32	-8677.39	7136.91	(SAM 6-1b)	0.205191	0.012199	0.183051	0.009941
1076	L50	Beam	DSTL3	42.83	-9004.48	4184.58	(SAM 6-1b)	0.185856	0.002087	0.152664	0.031105
1077	L50	Brace	DSTL4	-223.53	-6135.22	-586.56	(SAM 6-1a)	0.423052	0.300551	0.078829	0.043671
1078	L50	Brace	DSTL3	-222.15	-8519.38	1276.57	(SAM 6-1a)	0.467987	0.298687	0.122354	0.046945
1079	L50	Brace	DSTL3	-283.34	-6655.02	-696.4	(SAM 6-1a)	0.637566	0.49959	0.086584	0.051393
1080	L50	Brace	DSTL4	-309.18	-4355.27	1651.7	(SAM 6-1a)	0.657069	0.545141	0.091163	0.020765
1081	L70	Brace	DSTL1	-33.58	-18137.05	8275.6	(SAM 6-1b)	0.142146	0.006381	0.112551	0.023214
1082	L70	Brace	DSTL3	33.97	-22251.58	5103.85	(SAM 6-1b)	0.1565	0.000845	0.115394	0.040262
1083	L80	Brace	DSTL3	-203.58	-19991.51	-3664.37	(SAM 6-1b)	0.115671	0.030406	0.047737	0.037528
1084	L80	Brace	DSTL4	-226.76	-11160.98	5432.85	(SAM 6-1b)	0.091793	0.033868	0.048683	0.009243
1085	L60	Beam	DSTL3	113.22	-852.15	8842.95	(SAM 6-1b)	0.095226	0.003832	0.064943	0.026451
1086	L80	Brace	DSTL3	-199.39	-8359.5	12115.98	(SAM 6-1b)	0.094949	0.02978	0.059453	0.005715
1087	L60	Beam	DSTL3	74.51	-911.05	9574.54	(SAM 6-1b)	0.100484	0.002521	0.070238	0.027724
1088	L60	Beam	DSTL3	-130.05	-10121.93	11297.85	(SAM 6-1b)	0.159979	0.012479	0.14364	0.00386
1089	L80	Brace	DSTL4	-272.99	-21525.46	-283.91	(SAM 6-1b)	0.137587	0.040773	0.062103	0.034712
1090	L70	Beam	DSTL3	-56.59	-15025.37	21.93	(SAM 6-1b)	0.111643	0.011723	0.064149	0.035771
1091	L50	Brace	DSTL3	-134.13	-5800.6	4350.73	(SAM 6-1a)	0.333999	0.212598	0.111049	0.010351
1092	L60	Beam	DSTL3	-133.78	7486.36	11077.75	(SAM 6-1b)	0.098474	0.012837	0.024219	0.061418
1093	L80	Brace	DSTL4	-260.87	-22039.33	-96.04	(SAM 6-1b)	0.141299	0.04195	0.064109	0.03524
1094	L70	Beam	DSTL3	-58.39	-15381.7	571.49	(SAM 6-1b)	0.115404	0.012097	0.067993	0.035314
1095	L50	Beam	DSTL4	-26.7	-2913.68	443	(SAM 6-1b)	0.071564	0.014811	0.03969	0.017063
1096	L70	Beam	DSTL1	12.64	-9900.42	-9.83	(SAM 6-1b)	0.0656	0.000314	0.041722	0.023564
1100	L70	Beam	DSTL4	-415.99	-16202.68	3209.7	(SAM 6-1b)	0.205571	0.08618	0.067755	0.031636
1101	L70	Beam	DSTL4	-419.78	-16256.05	2622.52	(SAM 6-1b)	0.205699	0.086965	0.085568	0.033166
1102	L70	Beam	DSTL3	-446.07	-12277.6	1713.43	(SAM 6-1b)	0.183715	0.092413	0.065384	0.025917
1103	L70	Beam	DSTL3	-129.36	-12503.89	1661.66	(SAM 6-1b)	0.114206	0.026799	0.061401	0.026005
1104	L70	Beam	DSTL3	-126.99	-12483.71	1068.61	(SAM 6-1b)	0.112456	0.026309	0.058783	0.027363
1105	L70	Beam	DSTL3	-441.78	-12307.89	2313.5	(SAM 6-1b)	0.184052	0.091523	0.067975	0.024554
1109	L70	Beam	DSTL4	-398.96	-14563.53	-2439.69	(SAM 6-1b)	0.164474	0.069567	0.054963	0.039943
1110	L70	Beam	DSTL4	-401.7	-14613.54	-4006.61	(SAM 6-1b)	0.162325	0.070044	0.04858	0.043701
1111	L70	Beam	DSTL3	-469.33	-9438.81	3018.82	(SAM 6-1b)	0.154156	0.081838	0.056889	0.015428
1112	L70	Beam	DSTL3	-53.39	-17188.83	-791.12	(SAM 6-1b)	0.120712	0.009309	0.069632	0.041771
1113	L70	Beam	DSTL3	-45.16	-17146.64	-2359.78	(SAM 6-1b)	0.11594	0.007874	0.062765	0.045301
1114	L70	Beam	DSTL3	-465.54	-9403.39	1452.66	(SAM 6-1b)	0.15024	0.081177	0.050088	0.018975
1117	L60	Brace	DSTL3	-64.27	-11995.44	7960.06	(SAM 6-1b)	0.175854	0.024565	0.135117	0.016171
1118	L60	Beam	DSTL4	-549.1	-8560.83	-593.46	(SAM 6-1a)	0.380543	0.293783	0.055331	0.03143
1119	L60	Beam	DSTL4	-550.76	-8604	-2371.56	(SAM 6-1a)	0.37717	0.29467	0.045006	0.037494
1120	L60	Beam	DSTL3	-613.04	-9270.07	2265.04	(SAM 6-1a)	0.42993	0.32799	0.077618	0.024323
1121	L60	Beam	DSTL3	-115.01	-13678.25	244.23	(SAM 6-1b)	0.176071	0.030767	0.09476	0.050543
1122	L60	Beam	DSTL3	-91.7	-13667.31	-1525.39	(SAM 6-1b)	0.164133	0.024531	0.082513	0.057089
1123	L60	Beam	DSTL3	-609.85	-9205.31	504.2	(SAM 6-1a)	0.422927	0.326286	0.066675	0.029965
1124	L60	Brace	DSTL3	-57.34	-11786.74	6868.83	(SAM 6-1b)	0.16781	0.021916	0.126247	0.019648
1125	L60	Beam	DSTL3	43.47	-924.33	12710.89	(SAM 6-1b)	0.133767	0.001471	0.091336	0.04096
1126	L60	Beam	DSTL3	51.92	-1313.61	10201.19	(SAM 6-1b)	0.109775	0.001757	0.077132	0.030886
1127	L60	Beam	DSTL4	-827.31	-7120.86	633.66	(SAM 6-1a)	0.435952	0.359408	0.054637	0.021907
1128	L60	Beam	DSTL4	-826.65	-7147.05	-2593.04	(SAM 6-1a)	0.427022	0.359117	0.035485	0.03242
1129	L60	Beam	DSTL3	-914.35	-12853.66	3069.68	(SAM 6-1a)	0.53408	0.397217	0.104251	0.03261

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
1130	L60	Beam	DSTL3	-175.2	-16542.13	1375.52	(SAM 6-1b)	0.215007	0.038057	0.121552	0.055398
1131	L60	Beam	DSTL3	-143.33	-16488.83	-1828.39	(SAM 6-1b)	0.197391	0.031134	0.099434	0.066823
1132	L60	Beam	DSTL3	-912.85	-12811.71	-126.56	(SAM 6-1a)	0.524302	0.396569	0.084922	0.042811
1133	L50	Beam	DSTL3	79.13	754.04	8013.77	(SAM 6-1b)	0.145948	0.003856	0.084032	0.05806
1134	L50	Beam	DSTL3	75.7	705.04	7786.49	(SAM 6-1b)	0.141887	0.003689	0.081968	0.05623
1135	L50	Beam	DSTL4	177.24	2149.84	6630.78	(SAM 6-1b)	0.118649	0.008637	0.051867	0.058145
1136	L50	Beam	DSTL3	-102.1	-7023.59	-3113.08	(SAM 6-1b)	0.160378	0.045707	0.046287	0.068384
1137	L50	Beam	DSTL4	176.66	-7096.43	6865.09	(SAM 6-1b)	0.171783	0.008609	0.161628	0.001545
1138	L50	Beam	DSTL3	-102.84	-7099.55	3344.83	(SAM 6-1b)	0.201101	0.046037	0.130058	0.025006
1139	L70	Brace	DSTL1	-33.89	-18148.81	-8282.32	(SAM 6-1b)	0.110708	0.00644	0.042047	0.062221
1140	L70	Brace	DSTL1	-33.54	-18137.62	-8274.68	(SAM 6-1b)	0.110578	0.006375	0.042028	0.062175
1141	L60	Brace	DSTL3	-97.18	-21404.2	10384.79	(SAM 6-1b)	0.122696	0.014514	0.090684	0.017498
1142	L60	Brace	DSTL3	-101.44	-21224.46	9642.41	(SAM 6-1b)	0.121657	0.015151	0.088116	0.018391
1143	L70	Brace	DSTL4	31.07	-19063.12	-2654.4	(SAM 6-1b)	0.120981	0.000773	0.069217	0.050992
1144	L70	Brace	DSTL3	32.68	-21977.7	-4830.05	(SAM 6-1b)	0.13609	0.000812	0.072334	0.062943
1145	L60	Brace	DSTL3	-203.79	-19674.45	2924.6	(SAM 6-1b)	0.122258	0.030438	0.065154	0.026667
1146	L60	Brace	DSTL4	-201.13	-11012.32	6142.42	(SAM 6-1b)	0.06822	0.030039	0.050284	0.007896
1147	L60	Beam	DSTL3	107.1	-1171.8	7667.23	(SAM 6-1b)	0.083979	0.003625	0.059208	0.021146
1148	L50	Brace	DSTL3	-174.59	-5303.2	2958.45	(SAM 6-1a)	0.42223	0.307832	0.097196	0.017201
1149	L50	Brace	DSTL4	-21.25	-7572.11	-3920.87	(SAM 6-1b)	0.136503	0.013159	0.04288	0.080464
1150	L60	Beam	DSTL3	-137.13	-16201.31	14039.06	(SAM 6-1b)	0.220888	0.011143	0.202682	0.007064
1151	L50	Brace	DSTL3	-30.81	-7012.51	-252.66	(SAM 6-1b)	0.161994	0.027161	0.0802	0.054633
1152	L50	Beam	DSTL3	-132.15	-6933.18	258.1	(SAM 6-1b)	0.226872	0.068521	0.090086	0.048265
1153	L50	Brace	DSTL4	-5.1	-7718.27	-4364.46	(SAM 6-1b)	0.126586	0.003157	0.038966	0.084464
1154	L60	Beam	DSTL3	-140.74	-16740.01	-12961.67	(SAM 6-1b)	0.133659	0.011437	0.025514	0.096708
1155	L50	Beam	DSTL3	-133.85	-7040.18	-154.09	(SAM 6-1b)	0.228271	0.089662	0.086653	0.051957
1156	L60	Beam	DSTL3	-166.99	-25035.28	-8196.97	(SAM 6-1b)	0.230899	0.011673	0.112855	0.106371
1157	L50	Beam	DSTL3	55.94	-4833.21	7505.02	(SAM 6-1b)	0.162784	0.002726	0.142816	0.017242
1158	L50	Beam	DSTL3	48.84	-4961.34	8109.29	(SAM 6-1b)	0.173988	0.00238	0.151293	0.020315
1159	L50	Beam	DSTL4	250.49	-8589.94	-6549.22	(SAM 6-1b)	0.133527	0.012207	0.023621	0.097699
1160	L50	Beam	DSTL3	42.99	-8919.81	-3592.11	(SAM 6-1b)	0.144508	0.002095	0.061668	0.080744
1161	L50	Brace	DSTL4	-164.45	-5824.39	-4384.8	(SAM 6-1a)	0.351817	0.260666	0.023549	0.067602
1162	L50	Beam	DSTL3	-127.99	-8324.05	35.41	(SAM 6-1b)	0.229594	0.070999	0.101161	0.057434
1163	L50	Brace	DSTL4	-21.58	-7421.71	-3551.46	(SAM 6-1b)	0.13827	0.014505	0.045662	0.078103
1164	L50	Brace	DSTL4	-8.2	-7531.65	-3779.51	(SAM 6-1b)	0.129589	0.005512	0.043753	0.080324
1165	L50	Brace	DSTL3	-82.76	-6341.1	2701.56	(SAM 6-1b)	0.211807	0.072962	0.110796	0.028049
1166	L50	Brace	DSTL3	-75.46	-6268.32	2424.55	(SAM 6-1b)	0.202163	0.066523	0.10614	0.0295
1167	L50	Brace	DSTL4	-223.91	-6053.61	818.65	(SAM 6-1a)	0.417737	0.301053	0.080909	0.035775
1168	L50	Brace	DSTL3	-222.58	-6441.79	-1043.11	(SAM 6-1a)	0.44806	0.299268	0.086244	0.062548
1169	L50	Brace	DSTL3	-282.62	-6606.25	411.81	(SAM 6-1a)	0.637118	0.49831	0.094829	0.043979
1170	L50	Brace	DSTL4	-308.42	-4303.03	-1935.58	(SAM 6-1a)	0.638968	0.543801	0.050606	0.044561
1171	L50	Brace	DSTL3	-22.77	-7098.9	44.75	(SAM 6-1b)	0.15717	0.020073	0.084125	0.052971
1173	L60	Beam	DSTL6	-308.83	-11954.73	-669.64	(SAM 6-1b)	0.229713	0.099766	0.080605	0.049342
1175	L50	Brace	DSTL4	-11.79	-5638.42	6716.65	(SAM 6-1b)	0.160752	0.009347	0.143603	0.007802
1177	L60	Beam	DSTL4	314.32	-23849.34	-3060.73	(SAM 6-1b)	0.243407	0.010637	0.139253	0.093517
1178	L60	Beam	DSTL3	-99.82	-13502.29	-6705.04	(SAM 6-1b)	0.131158	0.015021	0.045667	0.07047
1179	L50	Brace	DSTL4	-168.83	-7274.34	5361.12	(SAM 6-1a)	0.35774	0.209074	0.135606	0.01306
1180	L50	Brace	DSTL3	-182.85	-6610.25	-943.5	(SAM 6-1a)	0.339101	0.226441	0.064466	0.048194
1181	L60	Brace	DSTL4	-340.95	-7456.17	6790.56	(SAM 6-1a)	0.355828	0.260619	0.092093	0.003116
1182	L60	Brace	DSTL3	-318.93	-14015.73	-157.41	(SAM 6-1a)	0.383619	0.243788	0.089196	0.050635
1184	L60	Beam	DSTL4	274.62	-17476.06	10466.14	(SAM 6-1b)	0.220832	0.0093	0.187171	0.024361
1185	L60	Beam	DSTL3	-49.21	-19543.39	4741.21	(SAM 6-1b)	0.222428	0.007404	0.163582	0.051441
1186	L60	Brace	DSTL4	-354.91	-7543.43	-5691.15	(SAM 6-1a)	0.336318	0.271295	0.017448	0.047575
1187	L60	Brace	DSTL3	-331.6	-14166.44	1275.19	(SAM 6-1a)	0.397621	0.253477	0.097842	0.046303
1188	L50	Brace	DSTL3	-190.79	-8958.45	27.51	(SAM 6-1a)	0.391425	0.236273	0.098361	0.056791
1189	L50	Brace	DSTL4	-197.06	-4783.68	3311.86	(SAM 6-1a)	0.343994	0.244028	0.089457	0.010509
1190	L70	Beam	DSTL3	76.56	-1226.14	15258.92	(SAM 6-1b)	0.096565	0.001904	0.069539	0.027123
1191	L50	Brace	DSTL3	-143.15	-6232.07	5373.5	(SAM 6-1a)	0.334694	0.203729	0.12476	0.006205
1192	L50	Beam	DSTL4	-29.33	-2321.78	780.49	(SAM 6-1b)	0.060026	0.013209	0.036514	0.010303
1194	L50	Beam	DSTL3	55.72	-4649.79	9432.41	(SAM 6-1b)	0.194984	0.002715	0.163002	0.029266
1195	L50	Beam	DSTL3	46.26	-4892.33	11580.89	(SAM 6-1b)	0.233853	0.002255	0.190678	0.040929
1196	L60	Brace	DSTL4	-27.32	-13176.98	-7544.92	(SAM 6-1b)	0.123573	0.007522	0.038	0.078051
1197	L60	Brace	DSTL4	-8.77	-13524.4	-9066.66	(SAM 6-1b)	0.117384	0.002414	0.029947	0.085024
1198	L60	Brace	DSTL3	-64.19	-13001.48	10370.8	(SAM 6-1b)	0.190094	0.022027	0.15769	0.010377
1199	L60	Brace	DSTL3	-56.78	-12746.18	8585.4	(SAM 6-1b)	0.179684	0.019484	0.143983	0.016316
1200	L70	Beam	DSTL4	268.21	-56779.47	-20089.14	(SAM 6-1b)	0.310011	0.006669	0.154771	0.148572
1201	L50	Brace	DSTL4	-251.38	189.7	5563.72	(SAM 6-1a)	0.459345	0.357764	0.066258	0.035323
1202	L50	Beam	DSTL3	-199.68	-9318.25	484.51	(SAM 6-1b)	0.267236	0.089929	0.118144	0.059163
1204	L50	Beam	DSTL4	397.05	-12359.76	7619.47	(SAM 6-1b)	0.279617	0.019349	0.231261	0.029007
1205	L50	Beam	DSTL3	-89.39	-11009.99	842.72	(SAM 6-1b)	0.225046	0.022647	0.140198	0.0622
1206	L60	Brace	DSTL4	-324.67	-10415.79	-8197.88	(SAM 6-1b)	0.18311	0.089379	0.02322	0.070511
1207	L60	Brace	DSTL3	-319.94	-18006.97	-1943.99	(SAM 6-1b)	0.279423	0.088076	0.115814	0.075532
1208	L60	Brace	DSTL3	-493.3	-15962.15	-880.12	(SAM 6-1a)	0.496256	0.338569	0.098579	0.059108
1209	L60	Brace	DSTL4	-521.77	-8024.86	8025.59	(SAM 6-1a)	0.464118	0.358111	0.105119	0.000888
1210	L70	Beam	DSTL4	134.07	-54033.28	48298.51	(SAM 6-1b)	0.446085	0.003333	0.431667	0.011084
1211	L50	Brace	DSTL3	-104.55	-8976.96	-1183.9	(SAM 6-1b)	0.242402	0.074398	0.094546	0.073457

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
1212	L50	Beam	DSTL3	-136.16	-9155.31	1903.99	(SAM 6-1b)	0.240855	0.06133	0.13105	0.048476
1214	L50	Beam	DSTL3	-330.67	-8215.28	1748.38	(SAM 6-1b)	0.243122	0.063779	0.120686	0.038657
1215	L50	Beam	DSTL3	-100.93	-10896.2	1253.2	(SAM 6-1b)	0.225521	0.025572	0.140491	0.059458
1216	L60	Brace	DSTL4	-295.54	-10172.58	9679.4	(SAM 6-1b)	0.220504	0.081358	0.13632	0.002826
1217	L60	Brace	DSTL3	-294.8	-17832.69	3470.94	(SAM 6-1b)	0.282186	0.081154	0.14603	0.055002
1218	L60	Brace	DSTL3	-474.22	-15816.9	-933.15	(SAM 6-1a)	0.479744	0.325474	0.095328	0.058942
1219	L60	Brace	DSTL4	-485.86	-107.95	9830.1	(SAM 6-1a)	0.435322	0.333465	0.069196	0.032659
1220	L80	Beam	DSTL4	-7.25	-1075.37	7196.91	(SAM 6-1b)	0.031629	0.000229	0.023379	0.008021
1221	L60	Beam	DSTL1	30.89	-6300.95	3.53	(SAM 6-1b)	0.067655	0.001045	0.042231	0.024379
1222	L80	Beam	DSTL3	-235.8	-91117.75	-80002.55	(SAM 6-1b)	0.263151	0.007445	0.031475	0.224231
1223	L60	Beam	DSTL3	-148.54	-19622.84	2898.57	(SAM 6-1b)	0.268331	0.049271	0.153892	0.065167
1224	L80	Beam	DSTL3	-235.7	-88469.02	94340.45	(SAM 6-1b)	0.531802	0.007442	0.516674	0.007686
1225	L60	Beam	DSTL3	-148.24	-19208.68	825.02	(SAM 6-1b)	0.257996	0.049174	0.13723	0.071592
1226	L60	Beam	DSTL4	-4.93	-632.87	3499.81	(SAM 6-1b)	0.03726	0.000358	0.027686	0.009216
1227	L60	Beam	DSTL1	10.47	-5361.81	2.95	(SAM 6-1b)	0.056518	0.000354	0.035936	0.020228
1228	L60	Beam	DSTL3	-161.37	-35061.96	-29797.38	(SAM 6-1b)	0.255623	0.011713	0.035399	0.208511
1229	L60	Beam	DSTL3	-140.5	-21427.65	3292.69	(SAM 6-1b)	0.27588	0.039538	0.16761	0.068731
1230	L60	Beam	DSTL3	-161.18	-33774.86	36131.34	(SAM 6-1b)	0.487663	0.011699	0.468405	0.007556
1231	L60	Beam	DSTL3	-140.33	-20916.06	2129.42	(SAM 6-1b)	0.267081	0.039489	0.1564	0.071192
1232	L70	Beam	DSTL3	3.27	-2242.3	45.98	(SAM 6-1b)	0.014005	0	0.009653	0.004271
1233	L60	Beam	DSTL4	-2.66	-3531.09	3999.28	(SAM 6-1b)	0.052812	0.000626	0.050468	0.001719
1234	L70	Beam	DSTL3	-150.32	67130.81	113302.85	(SAM 6-1b)	0.551617	0.005972	0.194813	0.350832
1235	L70	Beam	DSTL3	-136.16	-41356.61	7155.12	(SAM 6-1b)	0.298716	0.017289	0.205244	0.076183
1236	L70	Beam	DSTL3	-150.31	-68274.35	113267.51	(SAM 6-1b)	0.859292	0.005971	0.76584	0.08748
1237	L70	Beam	DSTL3	-136.14	-40312.58	7562.17	(SAM 6-1b)	0.292808	0.017286	0.202566	0.072956
1238	L70	Beam	DSTL4	-4.36	38.65	7876.64	(SAM 6-1b)	0.048392	0.000159	0.033064	0.015169
1239	L60	Beam	DSTL3	16.63	-2656.53	5960.77	(SAM 6-1b)	0.070126	0.000563	0.057723	0.01184
1240	L70	Beam	DSTL4	141.02	-82841.58	-55837.35	(SAM 6-1b)	0.38318	0.003506	0.113912	0.265761
1241	L60	Beam	DSTL3	-165.71	-25483.85	5329.35	(SAM 6-1b)	0.31188	0.032015	0.2075	0.072365
1242	L70	Beam	DSTL3	-139.87	-80100.03	71571.8	(SAM 6-1b)	0.661282	0.00511	0.639825	0.016346
1243	L60	Beam	DSTL3	-165.57	-24748.44	6605.12	(SAM 6-1b)	0.308291	0.031988	0.211143	0.065161
1244	L50	Beam	DSTL4	-35.44	-3713.7	-222.51	(SAM 6-1b)	0.093941	0.023743	0.042052	0.028146
1245	L60	Beam	DSTL3	-151.85	-23723.47	20744.13	(SAM 6-1b)	0.318133	0.010614	0.297968	0.009551
1246	L70	Beam	DSTL3	64.56	-19786.16	408.1	(SAM 6-1b)	0.132867	0.001605	0.085186	0.046076
1247	L70	Beam	DSTL3	65.78	-19870.89	-274.61	(SAM 6-1b)	0.1322	0.001636	0.082663	0.047901
1248	L70	Beam	DSTL1	-59.28	-9893.71	1.95	(SAM 6-1b)	0.078487	0.012281	0.042568	0.023638
1249	L70	Beam	DSTL4	-107.67	-12367.29	-2218.56	(SAM 6-1b)	0.101478	0.022306	0.044282	0.03489
1250	L70	Beam	DSTL4	-127.94	-14516.86	2333.27	(SAM 6-1b)	0.128108	0.026506	0.072443	0.029158
1251	L70	Beam	DSTL3	-179.13	-12869.95	-2003.13	(SAM 6-1b)	0.120847	0.03711	0.048065	0.035672
1252	L70	Beam	DSTL4	-106.47	-12482.43	-1529.53	(SAM 6-1b)	0.103239	0.022058	0.047658	0.033524
1253	L70	Beam	DSTL3	-179.17	-12624.09	-1310.62	(SAM 6-1b)	0.120509	0.037118	0.04995	0.033441
1254	L70	Beam	DSTL3	-126.7	-14372.69	1639.06	(SAM 6-1b)	0.125604	0.026249	0.068891	0.030464
1255	L70	Beam	DSTL1	-38.83	-8333.17	-2.17	(SAM 6-1b)	0.061699	0.006789	0.035523	0.019387
1256	L70	Beam	DSTL3	45.94	-25751.49	815.06	(SAM 6-1b)	0.171049	0.001142	0.112066	0.05784
1257	L70	Beam	DSTL3	44.6	-25564.87	-922.26	(SAM 6-1b)	0.166496	0.001109	0.10396	0.061437
1258	L70	Beam	DSTL4	-74.22	-11675.99	-1468.59	(SAM 6-1b)	0.087327	0.012941	0.043794	0.030592
1259	L70	Beam	DSTL3	-122.65	-17429.01	-1304.05	(SAM 6-1b)	0.134055	0.021387	0.069072	0.043596
1260	L70	Beam	DSTL4	147.76	-21971.64	1488.19	(SAM 6-1b)	0.150146	0.003674	0.098961	0.047512
1261	L70	Beam	DSTL4	149.16	-22093.32	3201.48	(SAM 6-1b)	0.15423	0.003709	0.106701	0.04382
1262	L70	Beam	DSTL3	-122.62	-17708.1	-3023.02	(SAM 6-1b)	0.132608	0.021381	0.062997	0.04823
1263	L70	Beam	DSTL4	-75.63	-11508.86	-3161.87	(SAM 6-1b)	0.083241	0.013187	0.035874	0.03418
1264	L60	Beam	DSTL1	-29.78	-5073.75	-0.36	(SAM 6-1b)	0.061455	0.007966	0.034417	0.019072
1265	L60	Beam	DSTL3	39.86	-18238.49	910.13	(SAM 6-1b)	0.194539	0.001349	0.128267	0.064923
1266	L60	Beam	DSTL3	38.81	-18088.28	-986.15	(SAM 6-1b)	0.187337	0.001313	0.114559	0.071464
1267	L60	Beam	DSTL3	-143.87	-14876.82	2062.25	(SAM 6-1b)	0.201788	0.038488	0.115067	0.048233
1268	L60	Beam	DSTL3	-167.32	-13972.03	-1793.09	(SAM 6-1b)	0.187912	0.044759	0.083788	0.059365
1269	L60	Beam	DSTL4	-125.92	-6636.12	-1948.52	(SAM 6-1b)	0.099398	0.033685	0.033288	0.032425
1270	L60	Beam	DSTL4	-124.85	-6714.38	-88.03	(SAM 6-1b)	0.105409	0.033399	0.046264	0.025746
1271	L60	Beam	DSTL3	-167.49	-13775.6	71.9	(SAM 6-1b)	0.191419	0.044805	0.094971	0.051642
1273	L60	Beam	DSTL3	-142.63	-14722.22	195.92	(SAM 6-1b)	0.194287	0.038156	0.101495	0.054636
1274	L60	Beam	DSTL3	-54.11	-3327.75	1683.49	(SAM 6-1b)	0.051811	0.011754	0.034012	0.006044
1275	L60	Beam	DSTL3	40.76	-21274.23	1641.59	(SAM 6-1b)	0.226324	0.001379	0.153502	0.071442
1276	L60	Beam	DSTL3	38.9	-21076.21	-1727.95	(SAM 6-1b)	0.213904	0.001316	0.129605	0.082983
1277	L60	Beam	DSTL3	-218.43	-17487.26	1995.25	(SAM 6-1b)	0.236053	0.047447	0.132033	0.056573
1278	L60	Beam	DSTL3	-239.46	-16642.88	-1570.15	(SAM 6-1b)	0.221634	0.052014	0.103068	0.066551
1279	L60	Beam	DSTL4	-196.9	-5791.39	-1804.31	(SAM 6-1b)	0.099435	0.042769	0.028753	0.027913
1280	L60	Beam	DSTL3	-239.6	-16379.91	1750.7	(SAM 6-1b)	0.229116	0.052044	0.123561	0.053511
1281	L60	Beam	DSTL3	-216.47	-17320.77	-1328.18	(SAM 6-1b)	0.223705	0.04702	0.108628	0.068057
1282	L60	Beam	DSTL4	-195.02	-5965.11	1520.53	(SAM 6-1b)	0.110993	0.042361	0.052186	0.016446
1295	L60	Beam	DSTL4	-125.22	-6174.95	5217.66	(SAM 6-1b)	0.13109	0.047182	0.079648	0.00426
1296	L60	Beam	DSTL3	-129.8	-21850.45	5316.21	(SAM 6-1b)	0.300157	0.048909	0.185406	0.065841
1297	L60	Beam	DSTL3	-127.98	-21758.72	-5142.68	(SAM 6-1b)	0.269661	0.048222	0.114632	0.106807
1298	L60	Beam	DSTL3	-116.19	-22687.21	6952.94	(SAM 6-1b)	0.299271	0.037534	0.200767	0.06097
1299	L60	Beam	DSTL3	-104.67	-22534.65	-6797.5	(SAM 6-1b)	0.254533	0.033814	0.107363	0.113355
1300	L60	Beam	DSTL4	-102.76	-5297.8	6874.89	(SAM 6-1b)	0.122514	0.033196	0.083518	0.005799
1301	L60	Beam	DSTL4	-104.69	-4176.9	7215.38	(SAM 6-1b)	0.117603	0.028624	0.077761	0.011218

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
1302	L60	Beam	DSTL3	-111.71	-23451.85	7321.7	(SAM 6-1b)	0.299028	0.030545	0.207648	0.060635
1303	L60	Beam	DSTL3	-109.61	-22899.96	-7148.85	(SAM 6-1b)	0.250045	0.02997	0.106935	0.11314
1304	L60	Beam	DSTL3	-76.18	-25603.05	7477.66	(SAM 6-1b)	0.306142	0.017363	0.222293	0.066486
1305	L60	Beam	DSTL3	-74.22	-25349.13	-7377.22	(SAM 6-1b)	0.257902	0.016918	0.121025	0.119959
1306	L60	Beam	DSTL4	-40.85	-3874.06	7405.46	(SAM 6-1b)	0.098138	0.009311	0.075946	0.012881
1307	L50	Beam	DSTL3	-76.17	-14232.84	3663.71	(SAM 6-1b)	0.306452	0.029472	0.208346	0.068634
1308	L50	Beam	DSTL3	-74.65	-14066.28	-3578.52	(SAM 6-1b)	0.26581	0.028681	0.122471	0.114458
1309	L50	Beam	DSTL4	-50.97	-2251.36	3609.71	(SAM 6-1b)	0.097083	0.01972	0.068681	0.008682
1310	L50	Beam	DSTL3	-35.31	-16601.19	3586.82	(SAM 6-1b)	0.326734	0.010937	0.234021	0.081776
1311	L50	Beam	DSTL3	-33.8	-16345.96	-3563.05	(SAM 6-1b)	0.283778	0.010471	0.148242	0.125065
1312	L50	Beam	DSTL4	0.8	-1918.16	3561.12	(SAM 6-1b)	0.073779	0	0.063423	0.010318
1313	L50	Beam	DSTL4	-43.86	-1820.62	3482.92	(SAM 6-1b)	0.084051	0.012035	0.061797	0.010219
1314	L50	Beam	DSTL3	-72.17	-17944.93	3543.65	(SAM 6-1b)	0.358184	0.019801	0.249294	0.08909
1315	L50	Beam	DSTL3	-70.59	-17600.85	-3450.27	(SAM 6-1b)	0.313759	0.019368	0.164216	0.130175
1316	L50	Beam	DSTL4	-31.87	-1718.41	3380.12	(SAM 6-1b)	0.077018	0.007685	0.05926	0.010074
1317	L50	Beam	DSTL3	-63.69	-18901.66	3435.93	(SAM 6-1b)	0.368416	0.015359	0.258941	0.094117
1318	L50	Beam	DSTL4	61.3	-19288.57	-3341.15	(SAM 6-1b)	0.32522	0.002987	0.184592	0.137641
1319	L50	Beam	DSTL4	-19.68	-1638.12	3217.03	(SAM 6-1b)	0.069888	0.004134	0.056323	0.009431
1320	L50	Beam	DSTL3	-55.2	-20239.84	3267.22	(SAM 6-1b)	0.385529	0.011596	0.272346	0.101587
1321	L50	Beam	DSTL4	52.74	-20708.87	-3185.42	(SAM 6-1b)	0.348375	0.00257	0.202835	0.14297
1322	L50	Beam	DSTL4	-6.91	-1585.68	3017.41	(SAM 6-1b)	0.062989	0.001251	0.053317	0.00842
1323	L50	Beam	DSTL3	-46.43	-21787.78	3061	(SAM 6-1b)	0.406406	0.00841	0.287783	0.110215
1324	L50	Beam	DSTL4	43.86	-22353.38	-2994.81	(SAM 6-1b)	0.375371	0.002137	0.224076	0.149157
1325	L50	Beam	DSTL4	3.48	-1562.43	2769.48	(SAM 6-1b)	0.057294	0.00017	0.050142	0.006982
1326	L50	Beam	DSTL3	-40.52	-23516.67	2785.9	(SAM 6-1b)	0.430741	0.006253	0.304552	0.119935
1327	L50	Beam	DSTL4	33.95	-24203.94	-2754.31	(SAM 6-1b)	0.405882	0.001654	0.24828	0.155947
17	L50	Beam	DSTL3	-125.5	-18364.4	-14295.92	(SAM 6-1b)	0.259045	0.021016	0.047427	0.190602
1097	L50	Beam	DSTL4	-3.81	-898.59	4196.32	(SAM 6-1b)	0.078863	0.000638	0.058985	0.01924
1098	L50	Beam	DSTL3	-123.36	16296.24	23121.96	(SAM 6-1b)	0.335726	0.020659	0.090956	0.224111
1099	L50	Beam	DSTL3	-131.51	14172.28	15986.29	(SAM 6-1b)	0.226129	0.025689	0.021553	0.178888
1106	L50	Beam	DSTL4	-3.08	-803.75	3462.78	(SAM 6-1b)	0.065777	0.000602	0.049398	0.015777
1107	L50	Beam	DSTL3	-129.69	13523.92	22760.57	(SAM 6-1b)	0.348023	0.025333	0.107446	0.215244
1115	L70	Brace	DSTL3	-579.7	-57094.21	27642.89	(SAM 6-1b)	0.487684	0.064693	0.35821	0.064781
1116	L70	Brace	DSTL3	-992.71	-16443.69	0	(SAM 6-1a)	0.329818	0.221566	0.074726	0.033525
1172	L70	Brace	DSTL4	-903.45	-16443.69	0	(SAM 6-1a)	0.308357	0.201644	0.073326	0.033384
1213	1652X71	Column	DSTL4	-5486.2	1986153.15	-77538.86	(H1-1b)	0.558816	0.040641	0.020214	0.51778
1272	1652X71	Column	DSTL4	-5733.31	2032476.33	-38764.01	(H1-1b)	0.572424	0.042472	0.010106	0.529856
1369	L70	Brace	DSTL4	288.43	-4661.41	55026.52	(SAM 6-1b)	0.369296	0.007171	0.251782	0.110343
1373	L50	Beam	DSTL4	-3.02	-1625.75	2231.12	(SAM 6-1b)	0.048623	0.000466	0.044657	0.0035
1374	L50	Beam	DSTL3	-6.26	-23677.81	2319.79	(SAM 6-1b)	0.42544	0.000966	0.300904	0.12357
1375	L50	Beam	DSTL4	54.15	-24392.65	-2256.73	(SAM 6-1b)	0.413023	0.002639	0.256224	0.15416
1571	L50	Beam	DSTL3	-423.65	-5033.81	0	(SAM 6-1b)	0.160268	0.065385	0.064973	0.02991
1572	L50	Beam	DSTL4	-298.01	-5033.95	0	(SAM 6-1b)	0.138497	0.045994	0.06283	0.029672
1573	L50	Beam	DSTL4	-363.36	-23679.83	2355.61	(SAM 6-1b)	0.481745	0.056095	0.302194	0.123456
1574	L50	Beam	DSTL5	-710.17	-22287.83	1716.5	(SAM 6-1a)	0.570361	0.219211	0.245543	0.105607
1575	L50	Beam	DSTL4	-260.38	-2813.86	-1452.58	(SAM 6-1b)	0.082937	0.040186	0.017819	0.024933
1576	L50	Beam	DSTL3	120.72	-947.76	2774.2	(SAM 6-1b)	0.059531	0.005683	0.043082	0.010566
1577	L70	Brace	DSTL4	-485.67	-56192.2	-23529.23	(SAM 6-1b)	0.36724	0.054199	0.138175	0.174867
1578	L70	Brace	DSTL3	-439.08	-56589.53	26620.21	(SAM 6-1b)	0.466279	0.049	0.351428	0.065851
1579	L70	Brace	DSTL3	-753.83	-55288.26	-22967.3	(SAM 6-1b)	0.392132	0.084133	0.136418	0.171581
1580	L70	Brace	DSTL4	-723.57	-58316.09	26925.08	(SAM 6-1b)	0.511739	0.080748	0.361823	0.069168
1581	1652X71	Column	DSTL4	-6061.63	1987783.1	-61939.24	(H1-1b)	0.56336	0.044904	0.016147	0.518205
1582	1652X71	Column	DSTL4	-5087.81	1990687.32	-49249.54	(H1-1b)	0.556811	0.03769	0.012839	0.518962
1583	1652X71	Column	DSTL4	-4455.1	1922496.3	-26861.42	(H1-1b)	0.534237	0.033003	0.007003	0.501185
1584	L60	Brace	DSTL4	-139	-1251.29	25879.05	(SAM 6-1b)	0.299925	0.028737	0.18218	0.089008
1585	L70	Brace	DSTL4	289.08	-4605.17	53656.16	(SAM 6-1b)	0.360416	0.007188	0.245764	0.107464
1586	L50	Beam	DSTL4	12.19	-1796.18	1776.44	(SAM 6-1b)	0.042062	0.000594	0.041353	0.000114
1587	L70	Beam	DSTL3	-40.97	-88077.11	7090.42	(SAM 6-1b)	0.563747	0.001843	0.401466	0.160438
1588	L50	Beam	DSTL4	37.41	-24407.37	-1783.93	(SAM 6-1b)	0.415201	0.001823	0.261867	0.15151
1589	L50	Beam	DSTL4	-10.4	-24417.45	-1551.91	(SAM 6-1b)	0.416555	0.001606	0.264718	0.150232
1590	L50	Beam	DSTL6	-613.67	-22833.08	-1762.05	(SAM 6-1b)	0.480989	0.094742	0.243953	0.142294
1591	L50	Beam	DSTL4	-305.88	-23806.91	2281.47	(SAM 6-1b)	0.474663	0.047208	0.302831	0.124625
1592	L50	Beam	DSTL5	-574.85	-22160.37	1555.42	(SAM 6-1b)	0.481159	0.08872	0.273383	0.119055
1593	L50	Beam	DSTL1	-28.47	-2939.38	0.21	(SAM 6-1b)	0.055691	0.004395	0.034264	0.017033
1594	L50	Beam	DSTL5	-92.52	-919.11	1722.64	(SAM 6-1b)	0.049692	0.014279	0.030789	0.004624
1595	L70	Brace	DSTL4	-1038.41	-57328.52	-24966.83	(SAM 6-1a)	0.514485	0.231766	0.12203	0.160688
1596	L70	Brace	DSTL3	-971.04	-56462.03	26155.55	(SAM 6-1a)	0.586761	0.21673	0.310612	0.05942
1597	L70	Brace	DSTL3	-656.98	-54538.94	-23190.89	(SAM 6-1b)	0.375921	0.073317	0.132196	0.170408
1598	L70	Brace	DSTL4	-512.41	-58003.11	26663.59	(SAM 6-1b)	0.484813	0.057183	0.358682	0.068947
1599	1652X71	Column	DSTL4	-6970.4	1976201.59	-53211.32	(H1-1b)	0.567008	0.051636	0.013872	0.515185
1600	1652X71	Column	DSTL4	-4310.29	1943301.85	-75002.54	(H1-1b)	0.538916	0.03193	0.019553	0.506609
1601	1398X66	Column	DSTL4	-3680.06	1163434.52	-43723.34	(H1-1b)	0.495652	0.035727	0.017272	0.459601
1602	L70	Brace	DSTL3	-329.11	-4456.62	47761.25	(SAM 6-1b)	0.352717	0.036727	0.221302	0.094687
1603	L70	Brace	DSTL4	-86.37	-4860.24	53442.68	(SAM 6-1b)	0.362338	0.009638	0.246296	0.106403
1604	L50	Beam	DSTL4	19.65	-2041.52	2148.35	(SAM 6-1b)	0.050025	0.000909	0.048498	0.000618
1605	L50	Beam	DSTL3	-32.33	-23642.03	2165.33	(SAM 6-1b)	0.428038	0.004989	0.298802	0.124248

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
1606	L50	Beam	DSTL4	30.48	-24782.43	-2147.19	(SAM 6-1b)	0.41927	0.001485	0.262004	0.155781
1607	L50	Beam	DSTL5	-940.74	-22898.61	-2753.1	(SAM 6-1a)	0.629444	0.290379	0.207158	0.131906
1608	L50	Beam	DSTL4	-299.04	-22296.32	-1872.08	(SAM 6-1b)	0.422236	0.046153	0.236315	0.139768
1609	L50	Beam	DSTL4	-394.32	-23488.87	2269.26	(SAM 6-1b)	0.483182	0.060858	0.299432	0.122893
1610	L50	Beam	DSTL4	244.04	-25160.07	2175.27	(SAM 6-1b)	0.461262	0.011893	0.316408	0.132961
1611	L50	Beam	DSTL3	-228.6	-2677.27	1974.41	(SAM 6-1b)	0.09514	0.035282	0.055578	0.00428
1612	L50	Beam	DSTL3	82.32	-724.32	3196.14	(SAM 6-1b)	0.063725	0.004012	0.045403	0.01431
1613	L70	Brace	DSTL4	-1278.33	-56189.45	-23911.37	(SAM 6-1a)	0.56402	0.285315	0.122167	0.156538
1614	L70	Brace	DSTL3	-1248.79	-57055.84	26586.14	(SAM 6-1a)	0.553012	0.278722	0.31444	0.05985
1615	L70	Brace	DSTL3	-1541.41	-54799.12	-23602.77	(SAM 6-1a)	0.613647	0.344033	0.116718	0.152896
1616	L70	Brace	DSTL4	-1461.23	-59170.87	28111.36	(SAM 6-1a)	0.719749	0.326138	0.332362	0.061249
1617	1398X66	Column	DSTL4	-8831.68	1151163.08	-34629.67	(H1-1b)	0.5407	0.085741	0.01368	0.454753
1618	1398X66	Column	DSTL3	-6215.23	-1130370.52	-42997.95	(H1-1b)	0.507202	0.06034	0.016986	0.446539
1619	1398X66	Column	DSTL3	-5802.52	-1093872.5	-31977.32	(H1-1b)	0.488638	0.056333	0.012632	0.432121
1620	L70	Brace	DSTL4	-144.86	-634.7	48317.19	(SAM 6-1b)	0.327728	0.016168	0.20753	0.10403
1621	L70	Brace	DSTL4	193.09	-4412.56	55481.46	(SAM 6-1b)	0.369337	0.004801	0.252652	0.111885
1622	L50	Beam	DSTL4	18.19	-1430.87	2088.23	(SAM 6-1b)	0.045423	0.000887	0.040734	0.003803
1623	L50	Beam	DSTL3	-33.18	-23414.88	2086.87	(SAM 6-1b)	0.423766	0.00512	0.295259	0.123387
1624	L50	Beam	DSTL4	30.25	-24084.66	-2065.82	(SAM 6-1b)	0.407502	0.001474	0.254637	0.15139
1625	L50	Beam	DSTL5	-874.19	-21892.1	-2647.29	(SAM 6-1a)	0.593805	0.269837	0.197795	0.126172
1626	L50	Beam	DSTL5	-664.21	-21816.68	-1568.23	(SAM 6-1a)	0.533576	0.205021	0.2083	0.120255
1627	L50	Beam	DSTL4	-789.49	-22412.9	2385.83	(SAM 6-1a)	0.604275	0.243694	0.257365	0.103216
1628	L50	Beam	DSTL5	-1022.65	-21482.22	1340.22	(SAM 6-1a)	0.651169	0.315665	0.232204	0.1033
1629	L50	Beam	DSTL4	-195.38	-2299.21	-932.54	(SAM 6-1b)	0.066393	0.030155	0.017352	0.018886
1630	L50	Beam	DSTL3	89.39	-462.94	3049.98	(SAM 6-1b)	0.059984	0.004356	0.040662	0.014965
1631	L70	Brace	DSTL4	-1173.77	-54807.56	-23551	(SAM 6-1a)	0.533189	0.261979	0.118106	0.153105
1632	L70	Brace	DSTL3	-1143.06	-54979.73	25577.12	(SAM 6-1a)	0.61559	0.255123	0.302734	0.057733
1633	L70	Brace	DSTL3	-1403.77	-53256.37	-22851.76	(SAM 6-1a)	0.575376	0.313312	0.113661	0.148404
1634	L70	Brace	DSTL4	-1316.34	-57195.16	26293.31	(SAM 6-1a)	0.672226	0.2938	0.317549	0.060877
1635	1398X66	Column	DSTL4	-10513.18	1111872.91	-44608.61	(H1-1a)	0.594873	0.204131	0.015664	0.390428
1636	1398X66	Column	DSTL3	-6768.78	-1079699.35	-39518.91	(H1-1b)	0.492507	0.065714	0.015216	0.426522
1637	1398X66	Column	DSTL3	-6565.82	-1059279.08	-39690.35	(H1-1b)	0.482477	0.063743	0.015284	0.418455
1638	L70	Brace	DSTL4	-139.43	-1017.92	47364.19	(SAM 6-1b)	0.321368	0.01566	0.204266	0.101542
1639	L70	Brace	DSTL4	185.17	-4808.05	52882.15	(SAM 6-1b)	0.353282	0.004604	0.243355	0.105323
1640	L50	Beam	DSTL4	15.05	-1745.56	1739.77	(SAM 6-1b)	0.041109	0.000733	0.040343	0
1641	L50	Beam	DSTL3	-34.27	-22475.92	1743.75	(SAM 6-1b)	0.40565	0.005289	0.280421	0.11994
1642	L50	Beam	DSTL4	32.42	-23470.36	-1735.93	(SAM 6-1b)	0.398969	0.00158	0.251577	0.145812
1643	L50	Beam	DSTL5	-796.05	-21206.89	-2260.93	(SAM 6-1a)	0.561249	0.245717	0.194848	0.120684
1644	L50	Beam	DSTL6	-610.9	-20609.91	-1292.74	(SAM 6-1b)	0.444515	0.094283	0.223614	0.126718
1645	L50	Beam	DSTL4	-697.25	-21529.62	2027.95	(SAM 6-1a)	0.560147	0.215222	0.244424	0.100501
1646	L50	Beam	DSTL5	-342.04	-20506.17	1050.6	(SAM 6-1a)	0.610122	0.29078	0.21954	0.099802
1647	L50	Beam	DSTL4	-187.37	-2185.07	-683.14	(SAM 6-1b)	0.064518	0.028918	0.018827	0.016772
1648	L50	Beam	DSTL3	93.17	-479.25	2617.59	(SAM 6-1b)	0.052756	0.00454	0.035846	0.01237
1649	L70	Brace	DSTL4	-1080.04	-52422.09	-22908.78	(SAM 6-1a)	0.499661	0.241057	0.111436	0.147168
1650	L70	Brace	DSTL3	-1049.68	-52561.16	23944.55	(SAM 6-1a)	0.578022	0.234282	0.287534	0.056205
1651	L70	Brace	DSTL3	-1286.49	-50799.64	-22166.83	(SAM 6-1a)	0.536397	0.287137	0.106992	0.142268
1652	L70	Brace	DSTL4	-1195.8	-54787.27	24657.23	(SAM 6-1a)	0.628076	0.266894	0.301869	0.059313
1653	1398X66	Column	DSTL4	-12030.65	1060001.23	-44322.19	(H1-1a)	0.606134	0.233595	0.015563	0.372214
1654	1398X66	Column	DSTL3	-7242.22	-1025821.31	-38439.81	(H1-1b)	0.475833	0.07031	0.015185	0.405238
1655	1398X66	Column	DSTL3	-7245.65	-1008387.26	-38984.22	(H1-1b)	0.468992	0.070343	0.0154	0.398351
1656	L70	Brace	DSTL4	-129.54	-949.42	45551.8	(SAM 6-1b)	0.308494	0.014457	0.196316	0.097722
1657	L70	Brace	DSTL4	172.88	-4861.51	50119.86	(SAM 6-1b)	0.335382	0.004299	0.231928	0.099155
1658	L50	Beam	DSTL4	11.09	-1776.71	1435.19	(SAM 6-1b)	0.039694	0.000541	0.037178	0.001976
1659	L50	Beam	DSTL3	-36.3	-21506.77	1443.98	(SAM 6-1b)	0.387409	0.005602	0.265738	0.116069
1660	L50	Beam	DSTL4	34.48	-22520.68	-1426.26	(SAM 6-1b)	0.384365	0.00158	0.244146	0.138539
1661	L50	Beam	DSTL5	-731.46	-20090.96	-1918.19	(SAM 6-1a)	0.525911	0.225781	0.18695	0.113181
1662	L50	Beam	DSTL6	-557.34	-19282.63	-1037.38	(SAM 6-1b)	0.414829	0.086017	0.211246	0.117566
1663	L50	Beam	DSTL4	-627.18	-20241.12	1701.3	(SAM 6-1b)	0.460399	0.096797	0.256117	0.107485
1664	L50	Beam	DSTL5	-863.71	-19392.97	811	(SAM 6-1a)	0.567942	0.266602	0.205995	0.095345
1665	L50	Beam	DSTL3	128.1	-3182.94	448.94	(SAM 6-1b)	0.064098	0.006243	0.042039	0.015816
1666	L50	Beam	DSTL3	91.33	-350.83	2239.13	(SAM 6-1b)	0.045353	0.004451	0.029979	0.010923
1667	L70	Brace	DSTL4	-1001.33	-49418.47	-21899.36	(SAM 6-1a)	0.466692	0.22349	0.103986	0.139316
1668	L70	Brace	DSTL3	-971.94	-49583.74	22120.03	(SAM 6-1a)	0.540238	0.216931	0.269418	0.053888
1669	L70	Brace	DSTL3	-1188.08	-47772.51	-21148.51	(SAM 6-1a)	0.499057	0.265171	0.099507	0.134378
1670	L70	Brace	DSTL4	-1096.51	-51744.69	22843.62	(SAM 6-1a)	0.584629	0.244735	0.283231	0.056863
1671	1398X66	Column	DSTL4	-13415.2	995199.25	-43079.61	(H1-1a)	0.610616	0.260479	0.015127	0.34981
1672	1398X66	Column	DSTL3	-7648.45	-951527.73	-37838.15	(H1-1b)	0.454388	0.074254	0.014947	0.37984
1673	1398X66	Column	DSTL3	-7858.35	-946119.27	-38406.04	(H1-1b)	0.450352	0.076292	0.015172	0.373753
1674	L70	Brace	DSTL4	-120.7	-922.23	43112.63	(SAM 6-1b)	0.291806	0.013469	0.1859	0.092437
1675	L70	Brace	DSTL4	160.69	-4852.98	46867.31	(SAM 6-1b)	0.314215	0.003995	0.218172	0.092047
1676	L50	Beam	DSTL4	6.08	-1775.01	1166.39	(SAM 6-1b)	0.037864	0.000296	0.034047	0.003521
1677	L50	Beam	DSTL3	-38.78	-20275.53	1180.54	(SAM 6-1b)	0.3649	0.005985	0.248444	0.110471
1678	L50	Beam	DSTL4	36.98	-21276.47	-1155.37	(SAM 6-1b)	0.364467	0.001802	0.232903	0.129763
1679	L50	Beam	DSTL5	-675.6	-18708.54	-1612.84	(SAM 6-1a)	0.488977	0.208538	0.175931	0.104509
1680	L50	Beam	DSTL6	-512.16	-17715.47	-809.53	(SAM 6-1b)	0.382006	0.079045	0.195776	0.107185
1681	L50	Beam	DSTL4	-569.58	-18679.95	1412.2	(SAM 6-1b)	0.422546	0.087907	0.234529	0.10011

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
1682	L50	Beam	DSTL5	-795.44	-18043.89	600.57	(SAM 6-1a)	0.525351	0.24553	0.190297	0.089524
1683	L50	Beam	DSTL3	112.16	-3278.95	269.87	(SAM 6-1b)	0.063951	0.005466	0.041078	0.017407
1684	L50	Beam	DSTL3	87.12	-209.51	1903.33	(SAM 6-1b)	0.0385	0.004245	0.024456	0.009798
1685	L70	Brace	DSTL4	-936.76	-45855.75	-20650.31	(SAM 6-1a)	0.434356	0.209078	0.095562	0.129716
1686	L70	Brace	DSTL3	-908.86	-46024.81	20134.02	(SAM 6-1a)	0.502276	0.202852	0.24863	0.050794
1687	L70	Brace	DSTL3	-1106.85	-44237.66	-19811.45	(SAM 6-1a)	0.463294	0.247042	0.091368	0.124884
1688	L70	Brace	DSTL4	-1016.81	-48100.92	20849.56	(SAM 6-1a)	0.542282	0.226945	0.261739	0.053599
1689	1398X66	Column	DSTL4	-14695.77	921401.62	-41241.9	(H1-1a)	0.609212	0.285343	0.014482	0.323545
1690	1398X66	Column	DSTL3	-7998.95	-887331.18	-36545.3	(H1-1b)	0.428483	0.077657	0.014437	0.350529
1691	1398X66	Column	DSTL3	-8419.06	-873543.38	-37121.78	(H1-1b)	0.427129	0.081735	0.014665	0.345083
1692	L70	Brace	DSTL4	-112.82	-945.6	40105.4	(SAM 6-1b)	0.271692	0.012591	0.173305	0.085796
1693	L70	Brace	DSTL4	148.58	-4791.83	43140.57	(SAM 6-1b)	0.289904	0.003694	0.202193	0.084017
1694	L50	Beam	DSTL4	0.08399	-1750.92	928.87	(SAM 6-1b)	0.035765	0	0.030993	0.004768
1695	L50	Beam	DSTL3	-41.66	-18793.12	946.75	(SAM 6-1b)	0.338264	0.006429	0.228586	0.103249
1696	L50	Beam	DSTL4	39.91	-19759.81	-910.65	(SAM 6-1b)	0.339698	0.001945	0.21818	0.119574
1697	L50	Beam	DSTL5	-627.7	-17085.05	-1338.19	(SAM 6-1b)	0.385844	0.096877	0.182369	0.106598
1698	L50	Beam	DSTL6	-475.07	-15919.17	-603.75	(SAM 6-1b)	0.34632	0.07332	0.177395	0.095606
1699	L50	Beam	DSTL4	-523.11	-16867.28	1154.4	(SAM 6-1b)	0.382227	0.080735	0.210393	0.091099
1700	L50	Beam	DSTL5	-736.73	-16471.69	412.67	(SAM 6-1a)	0.482357	0.227406	0.172511	0.06244
1701	L50	Beam	DSTL3	98.02	-3341.34	109.51	(SAM 6-1b)	0.063416	0.004777	0.039944	0.018695
1702	L50	Beam	DSTL3	80.8	-56.41	1602.96	(SAM 6-1b)	0.032091	0.003938	0.019207	0.008946
1703	L70	Brace	DSTL4	-902.94	36291.04	18886.36	(SAM 6-1a)	0.370984	0.201531	0.062081	0.107372
1704	L70	Brace	DSTL3	-859.47	-41942.41	17996.37	(SAM 6-1b)	0.402277	0.095914	0.253512	0.052851
1705	L70	Brace	DSTL3	-1041.4	-40234.48	-16180.53	(SAM 6-1a)	0.428961	0.232434	0.082618	0.113909
1706	L70	Brace	DSTL4	-955.36	-43891.69	18682.85	(SAM 6-1a)	0.500349	0.21323	0.237544	0.049574
1707	1398X66	Column	DSTL4	-15899.37	836278.38	-38791.08	(H1-1a)	0.602684	0.308713	0.013621	0.293655
1708	1398X66	Column	DSTL3	-8304.16	-803988.68	-34584.65	(H1-1b)	0.398519	0.08062	0.013662	0.317606
1709	1398X66	Column	DSTL3	-8941.98	-791472.15	-35056.32	(H1-1b)	0.39978	0.086812	0.013849	0.312661
1710	L70	Brace	DSTL4	-105.67	-1020.64	36572.61	(SAM 6-1b)	0.248397	0.011793	0.158714	0.07789
1711	L70	Brace	DSTL4	136.34	-4677.18	38963.35	(SAM 6-1b)	0.262595	0.00339	0.184089	0.075116
1712	L50	Beam	DSTL4	-6.85	-1704.45	710.08	(SAM 6-1b)	0.034795	0.001057	0.027981	0.005756
1713	L50	Beam	DSTL3	-44.89	-17076.24	736.63	(SAM 6-1b)	0.307752	0.006929	0.206289	0.094534
1714	L50	Beam	DSTL4	43.25	-17987.27	-688.2	(SAM 6-1b)	0.310378	0.002108	0.200237	0.108033
1715	L50	Beam	DSTL3	-584.72	-15269.4	-1099.84	(SAM 6-1b)	0.349183	0.090243	0.16421	0.09473
1716	L50	Beam	DSTL4	-440.54	-13948.71	-424.9	(SAM 6-1b)	0.307902	0.067991	0.156728	0.083183
1717	L50	Beam	DSTL4	-486.01	-14814.19	921.11	(SAM 6-1b)	0.339323	0.075009	0.18376	0.080654
1718	L50	Beam	DSTL5	-687.83	-14691.16	239.1	(SAM 6-1a)	0.439232	0.212315	0.152708	0.074209
1719	L50	Beam	DSTL3	87.58	-3371.76	-39.43	(SAM 6-1b)	0.062573	0.004268	0.038572	0.019733
1720	L50	Beam	DSTL4	15.27	-2155.05	-1321.85	(SAM 6-1b)	0.030502	0.000744	0.009644	0.020113
1721	L70	Brace	DSTL4	-845.58	-37193.47	-16921.64	(SAM 6-1b)	0.299648	0.094364	0.086348	0.118936
1722	L70	Brace	DSTL3	-822.06	-37365.56	15713.85	(SAM 6-1b)	0.364187	0.091739	0.224652	0.047796
1723	L70	Brace	DSTL3	-989.7	-35793.71	-16275.35	(SAM 6-1a)	0.395743	0.220896	0.073295	0.101552
1724	L70	Brace	DSTL4	-910.15	-39140.15	16344.41	(SAM 6-1a)	0.456897	0.203141	0.210724	0.044832
1725	1398X66	Column	DSTL4	-17049.98	740408.93	-35796.81	(H1-1a)	0.591348	0.331054	0.01257	0.259991
1726	1398X66	Column	DSTL3	-8573	-713528.18	-33266.54	(H1-1b)	0.365406	0.08323	0.013142	0.281871
1727	1398X66	Column	DSTL3	-9439.76	-701826.9	-30815.29	(H1-1b)	0.36916	0.091644	0.012173	0.277248
1728	L70	Brace	DSTL4	-99.07	-1152.44	32541.75	(SAM 6-1b)	0.222088	0.011055	0.142264	0.068768
1729	L70	Brace	DSTL4	123.84	-4511.3	34347.41	(SAM 6-1b)	0.232364	0.003079	0.163918	0.065367
1730	L50	Beam	DSTL4	-14.64	-1634.65	511.27	(SAM 6-1b)	0.033706	0.002291	0.024908	0.006507
1731	L50	Beam	DSTL3	-48.54	-15135.74	544.95	(SAM 6-1b)	0.273528	0.007491	0.181618	0.084419
1732	L50	Beam	DSTL4	47.04	-15968.58	-482.53	(SAM 6-1b)	0.27671	0.002292	0.179252	0.095166
1733	L50	Beam	DSTL3	-572.69	-13211.73	-938.91	(SAM 6-1b)	0.312617	0.088387	0.142328	0.081903
1734	L50	Beam	DSTL4	-385.33	-11732.6	-259.81	(SAM 6-1b)	0.261881	0.059471	0.133003	0.069407
1735	L50	Beam	DSTL4	-431.38	-12528.28	687.63	(SAM 6-1b)	0.289566	0.066578	0.154333	0.068655
1736	L50	Beam	DSTL5	-672.27	-12713.12	7.68	(SAM 6-1a)	0.403003	0.20751	0.130236	0.065257
1737	L50	Beam	DSTL3	130.76	-3369.88	-234.74	(SAM 6-1b)	0.063514	0.006372	0.036289	0.020852
1738	L50	Beam	DSTL4	-32.06	-2269.77	-1136.78	(SAM 6-1b)	0.03787	0.004948	0.013204	0.019718
1739	L70	Brace	DSTL4	-792.47	-32064.95	-14547.73	(SAM 6-1b)	0.265622	0.088437	0.074749	0.102436
1740	L70	Brace	DSTL3	-772.05	-32312.19	13292.9	(SAM 6-1b)	0.321351	0.086158	0.193203	0.04199
1741	L70	Brace	DSTL3	-928.31	-30944.98	-14099.05	(SAM 6-1a)	0.358564	0.207194	0.063499	0.087872
1742	L70	Brace	DSTL4	-854.77	-33783.99	13722.58	(SAM 6-1b)	0.342874	0.09539	0.203098	0.044387
1743	1398X66	Column	DSTL4	-16130.85	609446.85	-35012.83	(H1-1a)	0.566398	0.352041	0.012295	0.214004
1744	1398X66	Column	DSTL3	-8796.78	-650783.16	-66235.77	(H1-1b)	0.343814	0.085402	0.026166	0.257084
1745	1398X66	Column	DSTL3	-9904.21	-636145.49	9517.46	(H1-1b)	0.347483	0.096154	0.00376	0.251301
1746	L70	Brace	DSTL4	-94.44	-1425.69	27907.95	(SAM 6-1b)	0.192425	0.010539	0.123871	0.058015
1747	L70	Brace	DSTL4	112.15	-4369.23	29180.15	(SAM 6-1b)	0.198667	0.002788	0.141522	0.054357
1748	L50	Beam	DSTL4	-28.02	-1537.14	325.48	(SAM 6-1b)	0.033031	0.004325	0.021682	0.007025
1749	L50	Beam	DSTL3	-54.31	-12928.55	370.12	(SAM 6-1b)	0.235105	0.008381	0.15406	0.072664
1750	L50	Beam	DSTL4	53.32	-13656.04	-285.14	(SAM 6-1b)	0.238014	0.002599	0.154769	0.080646
1751	L50	Beam	DSTL5	-1049.81	-10879.71	-2437.18	(SAM 6-1a)	0.480001	0.324046	0.087419	0.068536
1752	L50	Beam	DSTL5	-130.98	-10182.15	-419.12	(SAM 6-1b)	0.195014	0.020215	0.113423	0.061377
1753	L50	Beam	DSTL4	339.81	-10039.13	-48.57	(SAM 6-1b)	0.190556	0.01656	0.115641	0.058355
1754	L50	Beam	DSTL5	-1225.06	-10532.32	-1912.21	(SAM 6-1a)	0.529825	0.378142	0.087761	0.063921
1755	L50	Beam	DSTL6	-1367.95	-49.15	1779.98	(SAM 6-1a)	0.456807	0.422247	0.026335	0.008224
1756	L50	Beam	DSTL6	-1261.7	825.73	2424.55	(SAM 6-1a)	0.425571	0.389451	0.0196	0.01652
1757	L80	Brace	DSTL4	-2439.56	-39723.54	-16049.42	(SAM 6-1a)	0.450222	0.319173	0.060027	0.071022

TABLE: Steel Design 2 - PMM Details - AISC-LRFD93

Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
1758	L80	Brace	DSTL4	-846.81	-48613.8	22807.54	(SAM 6-1b)	0.295858	0.055395	0.203617	0.036846
1759	L80	Brace	DSTL4	-550.62	-50475.4	-18970.63	(SAM 6-1b)	0.225253	0.03602	0.09019	0.099043
1760	L80	Brace	DSTL4	-2293.21	-42734.12	14484.19	(SAM 6-1a)	0.48358	0.300025	0.147271	0.036284
1761	1398X66	Column	DSTL4	-16876.11	528432.02	-22524.1	(H1-1a)	0.513403	0.327678	0.007909	0.185556
1762	1398X66	Column	DSTL3	-7877.48	-437481.61	14084.69	(H1-1b)	0.249389	0.076477	0.005564	0.172822
1763	1398X66	Column	DSTL3	-9069.98	-434769.31	-61323.94	(H1-1b)	0.261505	0.088054	0.024225	0.17175
1764	L80	Brace	DSTL3	-2610.17	-12807.22	33499.73	(SAM 6-1a)	0.48855	0.341494	0.121494	0.025562
1765	L80	Brace	DSTL3	-2645.77	-8191.27	34477.25	(SAM 6-1a)	0.487168	0.346152	0.10799	0.033026
1766	U250	Beam	DSTL4	-28.75	-128305.78	6305.79	(H1-1b)	0.015305	0.00015	0.002902	0.012253
1767	U250	Beam	DSTL4	50.64	-2017877.2	6457.83	(H1-1b)	0.195888	0.000216	0.002972	0.192701
1768	U250	Beam	DSTL4	54.6	-2136581.64	-6174.44	(H1-1b)	0.207111	0.000232	0.002841	0.204037
1769	U250	Beam	DSTL4	1482.5	-2577060.76	-13259.37	(H1-1b)	0.258516	0.006313	0.006101	0.246101
1770	U250	Beam	DSTL3	-58.2	-3050822.25	-6608.65	(H1-1b)	0.29467	0.000304	0.003041	0.291325
1771	U250	Beam	DSTL4	333.12	-3103119.57	5134.86	(H1-1b)	0.30012	0.001419	0.002363	0.296338
1772	U250	Beam	DSTL4	1393.05	-2785940.2	-800.73	(H1-1b)	0.272349	0.005932	0.000368	0.266048
1773	U250	Beam	DSTL4	-1362.42	-777664.33	677.71	(H1-1b)	0.081686	0.00711	0.000312	0.074264
1774	U250	Beam	DSTL3	1489.34	-613070.34	12305.16	(H1-1b)	0.070551	0.006342	0.005662	0.058546
1775	L80	Brace	DSTL4	-2289.95	-33355.54	-15806.58	(SAM 6-1a)	0.407573	0.299599	0.045338	0.062635
1776	L80	Brace	DSTL4	-725.24	-37105.91	17089.52	(SAM 6-1b)	0.23046	0.047442	0.154436	0.028582
1777	L80	Brace	DSTL4	-506.25	-38667.15	-14003.1	(SAM 6-1b)	0.178907	0.033117	0.070671	0.07512
1778	L80	Brace	DSTL4	-2103.02	-35416.68	14282.16	(SAM 6-1a)	0.430239	0.275142	0.127897	0.027199
1779	1398X66	Column	DSTL4	-7627.73	393472.14	-18208.82	(H1-1b)	0.229655	0.074053	0.007193	0.155436
1780	1398X66	Column	DSTL3	-3552.93	-372650.01	-15469.78	(H1-1b)	0.181831	0.034493	0.006111	0.147211
1781	1398X66	Column	DSTL3	-4155.77	-370442.76	-19864.89	(H1-1b)	0.186895	0.040346	0.007847	0.146339
1782	L80	Brace	DSTL3	-2375.23	-8251.36	26600.89	(SAM 6-1a)	0.432411	0.310757	0.096417	0.025237
1783	L80	Brace	DSTL3	-2359.67	-4746.99	29364.47	(SAM 6-1a)	0.426355	0.308721	0.086704	0.030931
1784	U250	Beam	DSTL4	-31.13	-114373.16	4611.21	(H1-1b)	0.013207	0.000162	0.002122	0.010922
1785	U250	Beam	DSTL4	51.6	-1799271.19	4771.41	(H1-1b)	0.17424	0.00022	0.002196	0.171825
1786	U250	Beam	DSTL4	56.24	-1904043.01	-4475.22	(H1-1b)	0.184129	0.000239	0.002059	0.18183
1787	U250	Beam	DSTL4	1179.25	-2301353.46	-8594.85	(H1-1b)	0.228749	0.005022	0.003955	0.219772
1788	U250	Beam	DSTL3	-240	-2699951.06	-4905.41	(H1-1b)	0.261347	0.001252	0.002257	0.257837
1789	U250	Beam	DSTL4	234.3	-2731568.74	4201.06	(H1-1b)	0.263787	0.000998	0.001933	0.260856
1790	U250	Beam	DSTL4	1196.73	-2476706.61	449.15	(H1-1b)	0.24182	0.005096	0.000207	0.236518
1791	U250	Beam	DSTL4	-616.95	-687036.76	380.69	(H1-1b)	0.069005	0.00322	0.000175	0.06561
1792	U250	Beam	DSTL3	610.36	-536243.59	9589.59	(H1-1b)	0.058221	0.002599	0.004413	0.05121
1812	L60	Beam	DSTL4	-537.94	-5253.11	-4598.66	(SAM 6-1b)	0.079316	0.040813	0.006414	0.03209
172	L60	Brace	DSTL4	-373.12	-7084.76	12211.34	(SAM 6-1a)	0.353266	0.217324	0.119045	0.016896
173	L60	Brace	DSTL3	-345.99	-19731.1	3099.73	(SAM 6-1a)	0.3977	0.201521	0.139726	0.056453
174	L60	Brace	DSTL3	-364.07	-20084.34	322.67	(SAM 6-1a)	0.404612	0.212055	0.125518	0.067039
175	L60	Brace	DSTL4	-391.44	-7443.17	9465.29	(SAM 6-1a)	0.33951	0.227997	0.105118	0.006395
176	L60	Brace	DSTL3	-64.8	-16980.72	-8339.52	(SAM 6-1b)	0.173687	0.018872	0.058621	0.096195
177	L60	Brace	DSTL3	-46.21	-17337.54	-11053.74	(SAM 6-1b)	0.163887	0.013457	0.04262	0.10781
178	L60	Brace	DSTL3	-299.4	-22752.18	279.66	(SAM 6-1b)	0.323597	0.080293	0.158046	0.085258
179	L60	Brace	DSTL4	-302.84	-13888.44	6965.85	(SAM 6-1b)	0.251804	0.081215	0.143597	0.026992
180	L60	Brace	DSTL4	-13.82	-15299.1	-7118.51	(SAM 6-1b)	0.142728	0.003707	0.054954	0.084067
181	L60	Brace	DSTL4	-23.25	-15595.39	-10839.67	(SAM 6-1b)	0.137506	0.006235	0.032115	0.099156
182	L60	Brace	DSTL3	-279.99	-22330.39	-4038.35	(SAM 6-1b)	0.304238	0.075089	0.129862	0.099287
183	L60	Brace	DSTL4	-283.23	-13460.59	-10673.6	(SAM 6-1b)	0.192977	0.079959	0.026099	0.09092
184	1652X71	Column	DSTL4	-5030.31	21277.58	1969734.08	(H1-1b)	0.550794	0.037264	0.513499	0.005547
185	L70	Brace	DSTL4	-624.42	-56882.53	22579.88	(SAM 6-1b)	0.482176	0.06955	0.337396	0.07523
186	L70	Brace	DSTL4	-241.62	-1714.36	47804.66	(SAM 6-1b)	0.337047	0.026861	0.209264	0.100921
121	L60	Beam	DSTL4	-289.04	-7643.23	766.32	(SAM 6-1b)	0.13697	0.053931	0.058251	0.024788
122	L60	Beam	DSTL4	-275.79	-7597.69	-3898.74	(SAM 6-1b)	0.119279	0.051459	0.026567	0.041252
123	L60	Beam	DSTL3	-370.28	-16114.23	3544.72	(SAM 6-1b)	0.248364	0.06909	0.13414	0.045135
124	L60	Beam	DSTL3	-74.2	-20895.2	1605.98	(SAM 6-1b)	0.233906	0.013846	0.151182	0.068878
125	L60	Beam	DSTL3	-60.58	-20842.52	-3043.55	(SAM 6-1b)	0.216163	0.011304	0.119595	0.085264
126	L60	Beam	DSTL3	-382.95	-16102.45	-1125.47	(SAM 6-1b)	0.236076	0.071454	0.102858	0.061763
127	L100	Beam	DSTL4	-2691.78	-113736.38	15849.46	(SAM 6-1a)	0.695888	0.441764	0.183677	0.070546
128	L100	Beam	DSTL3	-4237.3	-105206.53	10106.55	(SAM 6-1a)	0.951296	0.695408	0.186215	0.069673
129	L100	Beam	DSTL4	-529.09	-39476.57	-8181.1	(SAM 6-1b)	0.130357	0.043416	0.048772	0.038169
130	L100	Beam	DSTL4	-1054.81	-39135.7	20126.51	(SAM 6-1b)	0.195679	0.086556	0.093156	0.015967
131	L100	Beam	DSTL3	-4756.34	42822.36	0	(SAM 6-1a)	0.959819	0.78059	0.143468	0.03576
132	L100	Beam	DSTL4	-3247.18	-113486.52	-12465.59	(SAM 6-1a)	0.776381	0.532914	0.1528	0.090667
133	L60	Beam	DSTL3	242.73	4201.03	18645.78	(SAM 6-1b)	0.184845	0.008215	0.096758	0.079873
134	L60	Beam	DSTL3	236.1	4150.43	11648.2	(SAM 6-1b)	0.113426	0.00799	0.050211	0.055225
135	L60	Beam	DSTL4	313.64	-27289.69	-6691.14	(SAM 6-1b)	0.257392	0.010614	0.13798	0.118798
136	L60	Beam	DSTL3	-81.73	-24854.33	2018.6	(SAM 6-1b)	0.273122	0.012937	0.180113	0.080072
137	L60	Beam	DSTL3	-75.71	-24778.92	-4957.17	(SAM 6-1b)	0.249026	0.011984	0.132866	0.104176
138	L60	Beam	DSTL4	331.85	-27335.55	-13695.23	(SAM 6-1b)	0.246045	0.011231	0.09137	0.143445
142	L90	Beam	DSTL5	-3679.47	-116174.51	17622.98	(SAM 6-1a)	0.593279	0.272102	0.236417	0.08476
143	L90	Beam	DSTL4	-3706.11	-84520.62	14903.17	(SAM 6-1a)	0.510715	0.274072	0.176682	0.059961
144	L90	Beam	DSTL3	-5355.56	-71928.46	11158.61	(SAM 6-1a)	0.59673	0.396052	0.1483	0.052379
145	L90	Beam	DSTL5	-4985.18	-104983.9	-17.19	(SAM 6-1a)	0.644483	0.368661	0.185517	0.090305
146	L90	Beam	DSTL4	-408.16	-23250.55	5302.46	(SAM 6-1b)	0.08982	0.015092	0.057297	0.017431
147	L90	Beam	DSTL4	-591.13	-19402.67	-8265.33	(SAM 6-1b)	0.071627	0.021857	0.022914	0.026856
148	L90	Beam	DSTL4	-1056.34	-20725.88	15816.75	(SAM 6-1b)	0.117942	0.039059	0.073962	0.004921

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Frame	DesignSect	DesignType	Combo	Pu	MuMajor	MuMinor	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Kgf	Kgf-mm	Kgf-mm	Text	Unitless	Unitless	Unitless	Unitless
149	L90	Beam	DSTL4	-880.32	-21365.89	31415.77	(SAM 6-1b)	0.148213	0.03255	0.106093	0.009569
150	L90	Beam	DSTL5	-5450.72	-106859.43	-26152.8	(SAM 6-1a)	0.660386	0.403088	0.142896	0.114402
151	L90	Beam	DSTL3	-5809.77	-70653.81	-12923.07	(SAM 6-1a)	0.60568	0.429641	0.104021	0.072018
152	L90	Beam	DSTL4	-4202.11	-82728.52	-9201.49	(SAM 6-1a)	0.521012	0.310752	0.131112	0.079148
153	L90	Beam	DSTL6	-4177.14	-117763.93	-8599.01	(SAM 6-1a)	0.610532	0.308905	0.192956	0.108671
154	L50	Beam	DSTL3	-84.21	-2273.51	1174.14	(SAM 6-1b)	0.08112	0.032583	0.041232	0.007305
155	L50	Beam	DSTL3	47.85	-12351.79	1220.31	(SAM 6-1b)	0.231542	0.002332	0.157098	0.072113
156	L50	Beam	DSTL3	48.81	-12522.06	-1128.96	(SAM 6-1b)	0.222689	0.002379	0.131876	0.088435
157	L50	Beam	DSTL4	62.91	-2659.84	1710.25	(SAM 6-1b)	0.059802	0.003066	0.050584	0.006152
158	L50	Beam	DSTL4	-53.19	-11426.92	1709.8	(SAM 6-1b)	0.236525	0.02058	0.15298	0.063065
159	L50	Beam	DSTL4	5.52	-11983.52	-1650.01	(SAM 6-1b)	0.208202	0.000269	0.119611	0.088322
160	L50	Beam	DSTL1	23.96	-2929.85	16.97	(SAM 6-1b)	0.054148	0.001168	0.03411	0.01887
161	L50	Beam	DSTL4	4.53	-11841.19	699.83	(SAM 6-1b)	0.217561	0.000221	0.145163	0.072177
162	L50	Beam	DSTL4	-53.28	-11105.28	-638.95	(SAM 6-1b)	0.21878	0.020615	0.121967	0.076197
164	L70	Brace	DSTL3	-100.31	-35502.18	12234.78	(SAM 6-1b)	0.275021	0.018368	0.202203	0.05445
165	L70	Brace	DSTL3	-35.51	-43284.03	-26765.28	(SAM 6-1b)	0.220356	0.002821	0.069714	0.147821
166	L70	Brace	DSTL3	-460.67	-31846.59	5907.35	(SAM 6-1b)	0.308157	0.084354	0.162804	0.061
167	L70	Brace	DSTL4	-262.64	-44112.07	-16668.61	(SAM 6-1b)	0.26548	0.020867	0.116328	0.128285
168	L70	Brace	DSTL4	-155.01	-8045.56	15305.06	(SAM 6-1b)	0.144985	0.028384	0.099813	0.016787
169	L70	Brace	DSTL4	59.89	-1168	45522.97	(SAM 6-1b)	0.29204	0.001489	0.196957	0.093594
170	L70	Brace	DSTL4	59.77	-819.6	41498.86	(SAM 6-1b)	0.265415	0.001486	0.177669	0.08626
171	L70	Brace	DSTL4	-159.91	-8525.85	20031.97	(SAM 6-1b)	0.177819	0.029282	0.121839	0.026698
187	L70	Brace	DSTL3	-467.66	-31357.35	-10677.47	(SAM 6-1b)	0.274792	0.085635	0.090527	0.09963
188	L70	Brace	DSTL4	-261.78	-43713.65	12541.17	(SAM 6-1b)	0.324193	0.020799	0.237543	0.065851
189	L70	Brace	DSTL3	-33.24	-42765.15	-30902.6	(SAM 6-1b)	0.208165	0.002641	0.050068	0.155456
190	L70	Brace	DSTL4	-142.08	-33953.51	7080.57	(SAM 6-1b)	0.262927	0.026016	0.174012	0.0629
115	L50	Beam	DSTL3	-114.13	-27322.57	29062.62	(SAM 6-1b)	0.672143	0.009967	0.652738	0.009438
116	L50	Beam	DSTL3	22.03	-168	2034.13	(SAM 6-1b)	0.036693	0.001074	0.02549	0.01013
117	L50	Beam	DSTL4	113.92	-26387.34	23923.11	(SAM 6-1b)	0.601274	0.005551	0.582346	0.013377
118	L50	Beam	DSTL3	-99.16	-23104.25	24362.92	(SAM 6-1b)	0.566495	0.010013	0.54953	0.006952
119	L50	Beam	DSTL3	8.89	-206.17	2514.06	(SAM 6-1b)	0.044687	0.000433	0.031487	0.012767
120	L50	Beam	DSTL4	100.9	-22168.09	19274.94	(SAM 6-1b)	0.500627	0.004917	0.479705	0.016005
163	L50	Beam	DSTL3	-106.75	-21238	21453.22	(SAM 6-1b)	0.508169	0.012669	0.494306	0.001194
191	L50	Beam	DSTL3	8.98	-359.72	3711.45	(SAM 6-1b)	0.066445	0.000438	0.047124	0.018883
192	L50	Beam	DSTL3	-107.4	-20089.29	13893.7	(SAM 6-1b)	0.441125	0.012745	0.393459	0.034921
193	L50	Beam	DSTL3	-115.23	-18518.85	27257.11	(SAM 6-1b)	0.596512	0.016333	0.530097	0.050082
194	L50	Beam	DSTL3	5.29	-693.31	2983.54	(SAM 6-1b)	0.055951	0.000258	0.04256	0.013134
195	L50	Beam	DSTL3	-115.49	-16976.24	21054.66	(SAM 6-1b)	0.480136	0.01637	0.440404	0.023362
313	L60	Beam	DSTL4	313.37	-29910.94	-4863.46	(SAM 6-1b)	0.297469	0.010605	0.167781	0.119083
314	L60	Beam	DSTL3	-152.57	-27559.39	5443.37	(SAM 6-1b)	0.31736	0.020188	0.22113	0.076043
315	L60	Beam	DSTL3	-136.37	-27415.52	-5159.43	(SAM 6-1b)	0.27898	0.018045	0.149113	0.111823
316	L60	Beam	DSTL4	321.11	-29925.51	-15421.39	(SAM 6-1b)	0.263311	0.010867	0.097156	0.155287
317	L60	Beam	DSTL3	320.86	3836.01	21289.63	(SAM 6-1b)	0.213813	0.010659	0.116913	0.086041
318	L60	Beam	DSTL3	313.17	3677.32	10645.14	(SAM 6-1b)	0.106319	0.010598	0.046674	0.049046
319	L60	Brace	DSTL4	-222.42	-12595.14	14470.14	(SAM 6-1b)	0.244707	0.054927	0.183379	0.006402
320	L60	Brace	DSTL3	-218.25	-23339.19	6282.91	(SAM 6-1b)	0.318061	0.053896	0.20046	0.063705
321	L60	Brace	DSTL4	-22.26	-16346.84	12600.44	(SAM 6-1b)	0.213687	0.005498	0.194287	0.013903
322	L60	Brace	DSTL4	-11.51	-15963.94	7555.93	(SAM 6-1b)	0.191641	0.002843	0.157679	0.031119
323	L60	Brace	DSTL4	-241.96	-13075.82	-9463.58	(SAM 6-1b)	0.172307	0.05975	0.028767	0.083789
324	L60	Brace	DSTL3	-237.77	-23787.58	-1202.58	(SAM 6-1b)	0.307328	0.058716	0.155762	0.092851
325	L60	Beam	DSTL3	285	3944.05	24104.23	(SAM 6-1b)	0.23872	0.009645	0.135043	0.094031
326	L60	Beam	DSTL3	268.15	3696.25	8074.83	(SAM 6-1b)	0.077867	0.009075	0.02933	0.039462
327	L60	Beam	DSTL3	-348.48	-27676.58	7463.7	(SAM 6-1b)	0.342281	0.03787	0.236943	0.067468
328	L60	Beam	DSTL3	-119.72	-30412.16	9225.52	(SAM 6-1b)	0.3497	0.01301	0.2655	0.07119
329	L60	Beam	DSTL3	-102.28	-30195.93	-6755.97	(SAM 6-1b)	0.292112	0.011114	0.156981	0.124016
330	L60	Beam	DSTL3	-364.48	-27645.01	-8610.81	(SAM 6-1b)	0.289941	0.039609	0.129093	0.12124
331	L60	Brace	DSTL4	-299.69	-11522.93	18084.19	(SAM 6-1b)	0.292222	0.068186	0.200515	0.023521
332	L60	Brace	DSTL3	-295.65	-23934.82	8310.59	(SAM 6-1b)	0.343143	0.067268	0.218163	0.057712
333	L60	Brace	DSTL4	-30.38	-17079.28	14583.06	(SAM 6-1b)	0.228541	0.006912	0.21246	0.009168
334	L60	Brace	DSTL4	-1.86	-16646.54	7809.84	(SAM 6-1b)	0.196628	0.000422	0.163844	0.032361
335	L60	Brace	DSTL3	-324.54	-24491.08	1444.59	(SAM 6-1b)	0.334876	0.073839	0.176078	0.084959
336	L60	Brace	DSTL4	-328.81	-12137.8	11323.43	(SAM 6-1b)	0.23805	0.074812	0.159682	0.003556

HASIL OUPUT SAP2000
TOWER ALTERNATIF 1


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No. Frame	Profil	A	b	t	Kontrol Kuat Tekan									Kontrol Kelangsingan						Kontrol Kelangsingan Profil						Kontrol Kuat Tarik					
					Kontrol Penampang																										
		(cm²)	(mm)	(mm)	bf/	ef	bf/ < ef	r x = r y	L r (cm)	r x (cm)	r min (cm)	Lk (cm)	λ = Lk/r min	λ = 200	ω	ø	øPn	Pu	øPn > Pu	ø Pn = Ag.Fy	ø Pn = 0.9 Pu	øPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	øPn = 0.75 Pu						
56	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	37,158.93	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
59	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	38,190.29	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
60	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	38,190.29	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
61	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	43,340.98	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
62	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	42,273.34	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
63	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	41,154.15	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
64	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	1,960.96	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
65	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	7,153.53	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
66	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	14,581.15	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
67	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	23,009.20	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
68	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	34,449.70	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
69	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	47,069.13	OK !	49,123.08	48,140.62	OK !	18,42...	68,158.28	51,118.71						
70	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	42,961.62	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
71	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	41,383.39	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
72	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	39,805.44	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
73	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	37,668.46	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
74	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	35,937.82	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
75	SC 114.3 x 6.02	20.47	114.30	6.02	18.99	1,420.09	OK !	78.68	78.68	78.68	78.68	150.00	1.96	OK !	0.92	1.10	49,123.08	33,311.22	OK !	49,123.08	44,210.78	OK !	18,42...	68,158.28	51,118.71						
76	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	290.20	99.04	OK !	1.81	1.81	59,896.13	1,196.34	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
77	L 150.150.15	40.30	150.20	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	290.20	99.04	OK !	1.81	1.81	59,896.13	12,067.40	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
78	L 150.150.15	40.30	150.20	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	290.20	99.04	OK !	1.81	1.81	59,896.13	12,202.68	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
79	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	290.20	99.04	OK !	1.81	1.81	59,896.13	7,926.58	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
80	L 150.150.15	40.30	150.20	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	290.20	99.04	OK !	1.81	1.81	59,896.13	21,937.86	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
81	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	290.20	99.04	OK !	1.81	1.81	59,896.13	15,751.87	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
82	L 150.150.15	40.30	150.20	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	1.69	1.69	63,161.13	912.54	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
83	L 150.150.15	40.30	150.20	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	1.69	1.69	63,161.13	18,842.81	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
84	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	1.69	1.69	63,161.13	16,508.23	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
85	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	1.69	1.69	63,161.13	10,313.62	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
86	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	1.69	1.69	63,161.13	24,084.04	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
87	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	1.69	1.69	63,161.13	11,385.15	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
88	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	1.52	1.48	66,426.14	4,193.43	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
89	L 150.150.15	40.30	150.20	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	1.52	1.48	66,426.14	13,318.12	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
90	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	1.52	1.48	66,426.14	13,852.96	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
91	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	1.52	1.48	66,426.14	7,248.17	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
92	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	1.52	1.48	66,426.14	16,251.10	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
93	L 150.150.15	40.30	150.20	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	1.52	1.48	66,426.14	13,114.66	OK !	99,720.00	97,048.00	OK !	36,27...	134,199.00	100,649.25						
94	L 125.125.11	25.40	125.20	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	231.37	98.48	OK !	1.38	1.41	57,931.30	719.85	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
95	L 125.125.11	25.40	125.20	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	231.37	98.48	OK !	1.38	1.41	57,931.30	11,800.03	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
96	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	231.37	98.48	OK !	1.38	1.41	57,931.30	15,508.86	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
97	L 125.125.11	25.40	125.20	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	231.37	98.48	OK !	1.38	1.41	57,931.30	65,315.86	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
98	L 125.125.11	25.40	125.20	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	231.37	98.48	OK !	1.38	1.41	57,931.30	22,761.96	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
99	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	231.37	98.48	OK !	1.38	1.41	57,931.30	8,547.82	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
100	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	211.78	90.11	OK !	1.27	1.31	62,497.04	1,629.41	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
101	L 125.125.11	25.40	125.20	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	211.78	90.11	OK !	1.27	1.31	62,497.04	14,858.13	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
102	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	211.78	90.11	OK !	1.27	1.31	62,497.04	9,716.69	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
103	L 120.120.11	25.40	120.20	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	208.50	88.72	OK !	1.25	1.28	63,934.67	911.53	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
104	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	208.50	88.72	OK !	1.25	1.28	63,934.67	9,153.57	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
105	L 120.120.11	25.40	120.20	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	208.50	88.72	OK !	1.25	1.28	63,934.67	240.82	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
106	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	192.16	81.77	OK !	1.15	1.12	63,082.77	434.99	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
107	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	192.16	81.77	OK !	1.15	1.12	63,082.77	7,877.81	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
108	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	192.16	81.77	OK !	1.15	1.12	63,082.77	15,839.27	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
109	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	192.16	81.77	OK !	1.15	1.12	63,082.77	5,059.11	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
110	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	192.16	81.77	OK !	1.15	1.12	63,082.77	19,941.00	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
111	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	2.69	4.82	2.35	2.35	189.60	80.68	OK !	1.13	1.10	63,490.40	0.000	OK !	82,980.00	54,864.00	OK !	22,86...	84,582.00	63,436.50						
112	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.55	88.48	OK !	1.05	1.49	30,888.88	1,211.91	OK !	46,080.00	41,472.00	OK !	17,28...	63,936.00	47,952.00						
113	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.55	88.48	OK !	1.05	1.49	30,888.88	16,058.45	OK !	46,080.00	41,472.00	OK !	17,28...	63,936.00	47,952.00						
114	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.55	88.48	OK !	1.05	1.49	30,888.88	825.48	OK !	46,080.00	41,472.00	OK !	17,28...	63,936.00	47,952.00						

No. Frame	Profil	A	B	t	Kontrol Kuat Tekan															Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan							Kuat Rencana Profil					Kontrol Leleh			Kontrol Putus		
		(cm)	(mm)	(mm)	bf/	rx/	bf/ < yr	Lk = ry	1.2 r min x	ry (cm)	rmin (cm)	Lk / rmin	Lk < 200	vs	w	φPn	Pn	φPn > Pu	Pn = Ag.Fy	φPn = 0.9.Pn	φPn > Pu	Ae = 90%.Ag	Pn = Ae.Fu	φPn = 0.75.Pn
115	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.55	88.46	OK !	0.46	1.61	30 999.68	2 822.07	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
116	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.55	88.46	OK !	0.46	1.61	30 999.68	14 088.56	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
117	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.50	88.49	OK !	0.46	1.61	30 999.68	12 158.38	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
118	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33 327.17	1 672.58	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
119	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33 327.17	19 230.30	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
120	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33 327.17	13 014.88	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
121	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	311.28	159.68	OK !	1.72	3.70	12 441.89	1 248.38	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
122	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	311.76	159.88	OK !	1.72	3.70	12 441.89	3 314.05	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
123	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	311.76	159.88	OK !	1.72	3.70	12 441.89	3 465.62	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
124	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33 327.17	10 932.10	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
125	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33 327.17	12 916.78	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
126	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33 327.17	1 266.13	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
127	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	153.33	88.38	OK !	0.74	1.29	35 664.47	3 067.95	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
128	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	153.33	88.38	OK !	0.74	1.29	35 664.47	3 417.60	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
129	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	153.33	88.38	OK !	0.74	1.29	35 664.47	344.91	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
130	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	153.33	88.38	OK !	0.74	1.29	35 664.47	2 009.15	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
131	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	153.33	88.38	OK !	0.74	1.29	35 664.47	5 513.59	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
132	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	153.33	88.38	OK !	0.74	1.29	35 664.47	2 670.96	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
133	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	113.73	58.32	OK !	0.83	1.21	38 901.75	664.53	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
134	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	113.73	58.32	OK !	0.83	1.21	38 901.75	8 218.03	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
135	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	113.73	58.32	OK !	0.83	1.21	38 901.75	813.38	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
136	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	227.45	116.64	OK !	1.20	1.87	25 375.63	2 374.23	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
137	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	227.45	116.64	OK !	1.20	1.87	25 375.63	2 190.13	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
138	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	227.45	116.64	OK !	1.20	1.87	25 375.63	991.88	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
139	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	110.48	56.64	OK !	0.81	1.20	38 361.31	840.57	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
140	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	113.73	58.32	OK !	0.83	1.21	38 901.75	7 808.62	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
141	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	113.73	58.32	OK !	0.83	1.21	38 901.75	134.93	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
142	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	337.25	191.62	OK !	2.66	5.32	8 892.12	5 060.91	OK !	37 200.00	33 480.00	OK !	13.95	51 615.00	38 711.25
143	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	337.25	191.62	OK !	2.66	5.32	8 892.12	2 389.98	OK !	37 200.00	33 480.00	OK !	13.95	51 615.00	38 711.25
144	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	337.25	191.62	OK !	2.66	5.32	8 892.12	5 197.58	OK !	37 200.00	33 480.00	OK !	13.95	51 615.00	38 711.25
145	SC 114.3 x 8.02	20.47	114.30	8.02	18.09	1.420.09	OK !	78.68	78.68	78.68	78.68	290.32	2.61	OK !	0.83	1.00	41 123.08	40 196.20	OK !	48 123.08	44 210.78	OK !	18.42	68 158.28	51 118.71
146	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	76 056.17	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
147	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	78 662.50	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
148	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	73 867.59	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
149	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	73 865.43	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
150	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	71 598.74	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
151	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	71 567.98	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
152	SC 114.3 x 8.02	20.47	114.30	8.02	18.09	1.420.09	OK !	78.68	78.68	78.68	78.68	290.32	2.61	OK !	0.83	1.00	41 123.08	40 196.20	OK !	48 123.08	44 210.78	OK !	18.42	68 158.28	51 118.71
153	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	77 730.43	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
154	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	77 730.43	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
155	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	73 867.59	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
156	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	73 865.43	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
157	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	71 598.74	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
158	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	71 567.98	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
159	SC 114.3 x 8.02	20.47	114.30	8.02	18.09	1.420.09	OK !	78.68	78.68	78.68	78.68	290.32	2.61	OK !	0.83	1.00	41 123.08	40 196.20	OK !	48 123.08	44 210.78	OK !	18.42	68 158.28	51 118.71
160	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	88 112.09	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
161	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	88 112.09	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
162	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	82 062.54	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
163	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	82 087.37	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
164	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	87 988.86	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
165	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	87 878.42	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
166	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	71 485.55	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
167	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	71 448.37	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
168	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	84 617.98	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
169	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	290.32	1.78	OK !	0.62	1.00	86 367.15	84 618.81	OK !	86 367.15	77 730.43	OK !	32.39	119 834.42	89 875.81
170	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	200.32	102.73	OK !	1.11	1.68	27 878.52	8 433.10	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00
171	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	200.32	102.73	OK !	1.11	1.68	27 878.52	8 429.74	OK !	46 080.00	41 472.00	OK !	17.28	63 936.00	47 952.00

No. Frame	Profil	A	B	t	Kontrol Kuat Tekan														Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
		(cm²)	(mm)	(mm)	λf	λr	λf < λr	lx = ly	lx (cm)	iy (cm)	rmin (cm)	Lk (cm)	λ = Lk/rmin	λc	ω	φPn	Pn	φPn > Pu	Pn = Ag.Fy	φPn = 0.9.Pn	φPn > Pu	An = 90%.Ag	Pn = An.Fu	φPn = 0.75.Pn
172	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.81	1.95	1.95	200.32	102.73	OK !	1.11	1.66	27,679.52	9,414.79	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
173	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	79,395.96	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
174	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	79,395.96	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
175	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	79,395.96	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
176	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	79,395.96	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
177	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.81	1.95	1.95	200.32	102.73	OK !	1.11	1.66	27,679.52	9,406.28	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
178	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.81	1.95	1.95	200.32	102.73	OK !	1.11	1.66	27,679.52	9,419.18	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
179	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.81	1.95	1.95	200.32	102.73	OK !	1.11	1.66	27,679.52	9,419.46	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
180	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	82,141.46	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
181	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	82,759.10	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
182	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	80,099.85	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
183	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	80,141.08	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
184	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	81,993.60	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
185	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	81,916.81	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
186	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	81,897.10	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
187	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.81	1.95	1.95	200.32	102.73	OK !	1.11	1.66	27,679.52	9,430.47	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
188	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	85,129.79	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
189	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	83,141.11	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
190	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	84,813.58	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
191	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	84,917.93	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
192	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,778.22	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
193	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	79,812.21	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
194	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.81	1.95	1.95	200.32	102.73	OK !	1.11	1.66	27,679.52	9,432.19	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
195	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	83,411.78	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
196	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	83,437.68	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
197	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	83,284.21	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
198	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	83,287.26	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
199	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	98,286.40	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
200	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	98,322.35	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
201	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	83,845.17	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
202	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	82,945.76	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
203	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	82,989.27	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
204	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	82,787.62	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
205	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86,367.15	82,741.34	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
206	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,950.55	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
207	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,747.27	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
208	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	73,911.79	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
209	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	72,849.13	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
210	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,287.19	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
211	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	85,238.79	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
212	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,679.82	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
213	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	87,116.84	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
214	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	88,038.68	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
215	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	83,066.18	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
216	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,485.65	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
217	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,548.40	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
218	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,344.24	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
219	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,171.96	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
220	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,864.80	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
221	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,713.65	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
222	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,829.80	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
223	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	24,152.14	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
224	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	24,283.42	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
225	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	23,832.83	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
226	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	23,997.44	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
227	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	7,181.87	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
228	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,851.74	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51

No. Frame	Profil	A (cm²)	h (mm)	t (mm)	Kontrol Kuat Tekan: Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kuat Tarik: Kontrol Leleh					Kontrol Putus			
					bf/	λr	bf/ = λr	x = Ly	y = Lx	Ix (cm⁴)	Iy (cm⁴)	Ck = Lx/ry	y = Lx/ry	λc	w	ϕNn	Nu	ϕNn = Nu	Nn = Ag.Fy	ϕNn = 0.9.Nn	ϕNn = Nu	Ae = 80%.Ag	Nn = Ae.Fu	ϕNn = 0.75.Nn
229	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
230	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
231	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
232	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
233	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
234	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
235	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
236	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
237	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
238	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
239	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
240	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
241	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
242	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
243	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
244	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
245	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
246	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
247	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
248	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
249	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
250	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
251	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
252	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
253	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
254	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
255	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
256	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
257	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
258	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
259	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
260	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
261	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
262	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
263	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
264	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
265	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
266	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
267	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
268	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
269	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	1.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
270	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	1.01	1.00	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51
271	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
272	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
273	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
274	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
275	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
276	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
277	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
278	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
279	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
280	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
281	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
282	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
283	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
284	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
285	SC 273.0 x 9.27	76.77	273.00	9.27	29.45	1,420.09	OK !	186.60	186.60	186.60	186.60	200.32	1.07	OK !	2.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09

No. Frame	Profil	L	lk	r	Kontrol Kuat Geser									Kontrol Kuat Tarik								
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
		(cm)	(mm)	(cm)	bf/tf	h/tw	Ket	λ = lk/r	λp	λr	λmin	λp < λ < λr	λ > λr	Ket	vc	vr	φPn	Pn	φPn > Pu	Pn = Ag.Fy	φPn = 0.9.Pn	φPn > Pu	Ae = 85%.Ag	Pn = Ae.Fu	φPn = 0.75.Pn
286	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
287	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
288	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
289	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
290	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
291	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
292	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
293	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
294	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
295	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
296	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
297	SC 273.0 x 9.27	28.17	273.00	9.27	29.45	423.06	OK !	100.60	106.60	106.60	106.60	200.32	4.07	OK !	0.01	1.00	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
298	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,231.42	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
299	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,231.41	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
300	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	123.27	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
301	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	1,881.32	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
302	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	1,881.31	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
303	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	123.06	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
304	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,829.43	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
305	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,829.42	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
306	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	208.47	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
307	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,859.35	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
308	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,859.27	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
309	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	209.44	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
310	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	1,872.43	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
311	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,042.68	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
312	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,042.66	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
313	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	1,872.42	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
314	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	119.83	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
315	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	119.82	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
316	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,738.29	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
317	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,469.22	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
318	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,469.24	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
319	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,738.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
320	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	255.44	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
321	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	255.45	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
322	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	3,365.76	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
323	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	2,365.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
324	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	365.57	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
325	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	3,888.20	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
326	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	3,888.20	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
327	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	365.43	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
328	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	4,484.04	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
329	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	4,484.04	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
330	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	422.78	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
331	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	4,084.20	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
332	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	4,084.41	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
333	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	422.78	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
334	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	3,475.53	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
335	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	3,203.68	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
336	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	3,203.72	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
337	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	3,475.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
338	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	297.54	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
339	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	297.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
340	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	3,872.39	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
341	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	3,872.45	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
342	L 90.90.9	15.50	90.00	9.00	10.00	12.00	OK !	2.74	3.45	1.76	1.76	125.00	71.02	OK !	0.76	1.33	28,294.08	4,273.78	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25

fy = 2,400.00 kg/cm2

fu = 3,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

Ix = 2.40 m4 (Batang Kuda-kuda)

Iy = 0.21 1,425.00 (Batang Gording)

No. Frame	Profil	A	b	t	Kontrol Kaki Tekan										Kontrol Kaki Tarik					
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Patah			
		(cm^2)	(mm)	(mm)	b/t	λ	λr	Lk = Ag	ry (cm)	Lk (cm)	r min (cm)	Ck	λ = Lk/r	λc	w	λc	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0,9 Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0,75 Pn
343	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	419.66	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
344	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	419.51	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
345	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	4,274.79	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
346	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	4,274.63	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
347	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	4,274.48	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
348	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	366.25	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
349	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,295.24	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
350	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,295.07	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
351	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	564.92	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
352	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,075.65	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
353	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,075.74	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
354	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	732.32	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
355	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,377.88	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
356	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,377.96	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
357	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	732.84	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
358	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,075.08	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
359	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	4,532.56	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
360	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	4,532.66	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
361	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,075.17	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
362	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	560.52	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
363	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	560.44	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
364	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,805.58	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
365	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,179.06	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
366	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,179.23	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
367	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,885.62	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
368	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	729.28	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
369	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	729.11	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
370	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,003.94	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
371	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,004.15	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
372	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	920.47	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
373	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,895.82	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
374	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,895.93	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
375	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	920.64	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
376	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	7,723.16	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
377	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	7,723.42	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
378	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	1,131.43	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
379	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	8,622.14	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
380	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	8,622.87	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
381	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	1,137.71	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
382	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,704.98	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
383	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,810.97	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
384	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	5,811.28	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
385	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,704.90	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
386	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	914.89	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
387	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	914.66	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
388	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	7,531.83	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
389	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,429.06	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
390	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	6,429.59	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
391	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	7,532.09	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
392	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	1,425.69	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
393	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	1,425.27	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
394	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	7,229.95	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
395	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	7,230.82	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
396	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	1,360.05	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
397	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	8,568.99	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
398	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	8,568.41	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
399	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK	2.74	3.45	1.76	1.76	125.00	71.02	OK	0.76	1.31	28,294.98	1,360.81	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan															Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
		(cm²)	(mm)	(mm)	bf/	λr	bf/ > λr	lx = ly	lx (cm)	ly (cm)	i Rad (cm)	Lk = Lm	x = Lk/imin	λ < 200	Nn	ø	φNn	Pu	φNn > Pu	Pn = Ag.Fy	φNn = 0.9 Pn	φNn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φNn = 0.75 Pn
430	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	9,460.65	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
431	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	9,488.91	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
432	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,940.23	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
433	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	7,747.42	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
434	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,948.88	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
435	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,638.69	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
436	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,367.21	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
437	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	7,038.38	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
438	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	7,037.30	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
439	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,367.72	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
440	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,293.18	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
441	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,354.44	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
442	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,271.72	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
443	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	7,113.95	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
444	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	7,905.42	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
445	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	3,213.50	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
446	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,934.11	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
447	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,953.19	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
448	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,505.07	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
449	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,508.19	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
450	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,784.00	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
451	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	10,291.45	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
452	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	10,252.14	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
453	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,788.72	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
454	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	11,058.84	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
455	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	11,062.08	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
456	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	2,589.50	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
457	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,449.77	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
458	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,467.91	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
459	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	2,588.18	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
460	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	10,356.95	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
461	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,307.70	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
462	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,312.82	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
463	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	10,057.68	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
464	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,791.92	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
465	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	1,379.20	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
466	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	10,480.93	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
467	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,312.86	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
468	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	8,278.86	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
469	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	10,854.08	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
470	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	2,562.29	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
471	L 90.90.9	16.60	90.00	9.00	10.00	12.81	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.68	2,576.16	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
472	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	350.00	120.00	OK !	1.33	2.19	44,071.58	21,622.85	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
473	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.80	22,629.28	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
474	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.80	41,908.03	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
475	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	350.00	120.07	OK !	1.33	2.19	44,071.58	38,942.37	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
476	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	350.00	120.07	OK !	1.33	2.19	44,071.58	38,952.82	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
477	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.80	42,471.84	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
478	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.80	22,478.98	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
479	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	350.00	120.07	OK !	1.33	2.19	44,071.58	23,218.35	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
480	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	350.00	120.07	OK !	1.33	2.19	44,071.58	43,472.98	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
481	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.80	23,328.78	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
482	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.80	21,899.21	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
483	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	350.00	120.07	OK !	1.33	2.19	44,071.58	38,188.47	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
484	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	200.20	99.04	OK !	1.81	1.81	59,806.13	52,229.21	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
485	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	200.20	99.04	OK !	1.81	1.81	59,806.13	18,116.03	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25
486	L 150.150.15	46.50	150.00	15.00	10.00	12.81	OK !	4.56	5.74	2.93	2.93	200.20	99.04	OK !	1.81	1.81	59,806.13	23,083.32	OK !	88,720.00	87,048.00	OK !	39.27	134,199.00	100,649.25

No. Profil	Profil	h	b	t	Kontrol Tekuk															Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
		Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket	Ket
451	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	12 760.00	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
452	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	1 608.97	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
453	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	9 909.71	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
454	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	14 081.07	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
455	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	12 971.70	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
456	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	12 902.09	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
457	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	12 486.11	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
458	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	10 629.70	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
459	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	10 370.05	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
460	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	41 960.28	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
461	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	11 480.10	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
462	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	10 629.70	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
463	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	11 757.07	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
464	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	11 334.07	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
465	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	10 860.94	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
466	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	3.53	17.012.41	1 584.34	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
467	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	3.53	17.012.41	4 713.87	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
468	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	3.53	17.012.41	3 760.43	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
469	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	3.53	17.012.41	959.83	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
470	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	3.53	17.012.41	6 054.82	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
471	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	3.53	17.012.41	6 300.40	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
472	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	10 242.69	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
473	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	7 819.52	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
474	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	5 834.52	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
475	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	1 219.50	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
476	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	14 230.09	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
477	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	15 069.76	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
478	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	8 142.38	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
479	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	7 749.36	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
480	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	5 164.58	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
481	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.00	123.07	OK !	1.33	2.19	44.071.56	15 489.65	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
482	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	941.58	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
483	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	2 528.61	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
484	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19.567.30	7 245.38	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
485	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19.567.30	5 981.91	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
486	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19.567.30	918.97	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
487	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19.567.30	8 433.90	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
488	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19.567.30	1 379.30	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
489	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19.567.30	1 181.13	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
490	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	279.59	92.35	OK !	0.99	1.53	63.181.15	1 065.11	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
491	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	279.59	92.35	OK !	0.99	1.53	63.181.15	8 141.15	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
492	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	279.59	92.35	OK !	0.99	1.53	63.181.15	10 683.69	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
493	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	279.59	92.35	OK !	0.99	1.53	63.181.15	19 532.56	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
494	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	279.59	92.35	OK !	0.99	1.53	63.181.15	12 541.61	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
495	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	279.59	92.35	OK !	0.99	1.53	63.181.15	29 114.08	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
496	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	1 853.96	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
497	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	5 706.09	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
498	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.642.31	11 988.02	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
499	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.642.31	957.18	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
500	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	7 389.74	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
501	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	7 093.21	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
502	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.642.31	12 136.29	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
503	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.642.31	831.41	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
504	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	14 384.25	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
505	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.09	48.298.60	15 258.67	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
506	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.642.31	12 584.29	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25
507	L 150 150 15	40.00	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.642.31	13 055.72	OK !	96 720.00	87 048.00	OK !	38.27	134 199.00	100 649.25

fy = 3.700,00 kg/cm2

E = 2.100.000,00 kg/cm2

$\lambda_r = \frac{250}{\sqrt{fy}}$ = 129,91 (Batang sayap elemen)

$\lambda_r = \frac{665}{\sqrt{fy}}$ = 1.439,68 (Batang Badan)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan										Kontrol Kuat Tarik									
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Fraktur		
		(cm2)	(cm)	(mm)	b/t	λr	b/t < λr	lx = Ly	Lx (cm)	Ly (cm)	rx (cm)	ry (cm)	λx = Lx/rx	λy = Ly/ry	λc	ω	φPn	Pu	φPn > Pu	Ag = Ag Fy	φPn = 0.9 Ag	φPn > Pu	Ae = 85% Ag	Pn = Ae Fu	φPn = 0.75 Pn
514	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	41.942,39	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
515	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	388,95	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
516	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	1.82	53.042,31	523,17	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
517	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	1.82	48.298,60	12.197,18	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
518	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	1.82	48.298,60	42.152,13	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
519	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	1.82	48.298,60	42.289,26	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
520	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	47.425,49	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
521	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	47.743,64	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
522	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	48.139,26	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
523	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	48.703,88	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
524	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	2.00	48.298,60	41.520,94	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
525	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	2.00	48.298,60	41.345,78	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
526	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	2.00	48.298,60	41.527,01	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
527	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	5.456,28	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
528	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	898,07	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
529	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	2.00	48.298,60	789,30	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
530	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	38.448,05	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
531	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	2.00	48.298,60	45.687,92	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
532	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	2.00	48.298,60	42.258,72	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
533	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	44.256,48	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
534	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	2.00	48.298,60	42.721,31	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
535	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	344.46	117.56	OK !	1.21	2.00	48.298,60	42.915,42	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
536	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	51.275,87	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
537	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	44.128,43	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
538	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.58	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	44.128,43	OK !	99.720,00	89.748,00	OK !	34.27	134.199,00	100.649,25
539	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	270,13	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
540	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	271,77	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
541	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	263,87	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
542	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	268,19	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
543	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	527,57	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
544	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	519,53	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
545	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	1.444,84	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
546	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	1.700,63	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
547	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	1.438,15	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
548	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	344.46	195.72	OK !	2.11	3.53	8.702,72	188,91	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
549	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	344.46	195.72	OK !	2.11	3.53	8.702,72	182,48	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
550	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	344.46	195.72	OK !	2.11	3.53	8.702,72	185,99	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
551	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	344.46	195.72	OK !	2.11	3.53	8.702,72	192,76	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
552	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	1.712,31	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
553	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	344.46	195.72	OK !	2.11	3.53	8.702,72	412,18	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
554	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	350.60	199.20	OK !	2.14	3.75	8.469,98	348,09	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
555	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	344.46	195.72	OK !	2.11	3.53	8.702,72	571,45	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
556	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	350.60	199.20	OK !	2.14	3.75	8.469,98	529,44	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
557	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	344.46	195.72	OK !	2.11	3.53	8.702,72	429,01	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
558	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	344.46	195.72	OK !	2.11	3.53	8.702,72	578,72	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
559	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	350.60	199.20	OK !	2.14	3.75	8.469,98	354,52	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
560	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	350.60	199.20	OK !	2.14	3.75	8.469,98	534,57	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
561	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	258,65	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
562	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9.443,71	272,09	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
563	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	278.59	153.74	OK !	1.68	3.42	10.881,95	688,93	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
564	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	278.59	153.74	OK !	1.68	3.42	10.881,95	633,44	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
565	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	278.59	153.74	OK !	1.68	3.42	10.881,95	344,92	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
566	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	278.59	153.74	OK !	1.68	3.42	10.881,95	319,59	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
567	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	278.59	153.74	OK !	1.68	3.42	10.881,95	338,07	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
568	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	278.59	153.74	OK !	1.68	3.42	10.881,95	336,35	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
569	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	278.59	153.74	OK !	1.68	3.42	10.881,95	1.875,24	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
570	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	278.59	153.74	OK !	1.68	3.42	10.881,95	1.868,50	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25
571	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	278.59	153.74	OK !	1.68	3.42	10.881,95	2.183,26	OK !	57.350,00	51.615,00	OK !	13.95	51.615,00	38.711,25

No. Frame	Profil	A (cm²)	B (cm)	t (cm)	Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Kuat Tarik					
																			Kontrol Leleh			Kontrol Fraktur		
572	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	328.70	164.35	OK !	2.01	5.05	7.349.04	312.19	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
573	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	328.70	164.35	OK !	2.01	5.05	7.361.04	547.41	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
574	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	344.46	172.23	OK !	2.11	5.30	8.102.72	338.53	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
575	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	344.46	172.23	OK !	2.11	5.30	8.102.72	507.66	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
576	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	328.70	164.35	OK !	2.01	5.05	7.349.04	294.79	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
577	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	328.70	164.35	OK !	2.01	5.05	7.361.04	258.79	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
578	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	344.46	172.23	OK !	2.11	5.30	8.102.72	234.43	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
579	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	344.46	172.23	OK !	2.11	5.30	8.102.72	231.87	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
580	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	328.70	164.35	OK !	2.01	5.05	7.361.04	342.98	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
581	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	328.70	164.35	OK !	2.01	5.05	7.361.04	157.58	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
582	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	344.46	172.23	OK !	2.11	5.30	8.102.72	518.39	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
583	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	344.46	172.23	OK !	2.11	5.30	8.102.72	139.93	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
584	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	272.59	153.34	OK !	1.68	5.42	10.891.95	341.78	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
585	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	272.59	153.34	OK !	1.68	5.42	10.891.95	322.18	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
586	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	272.59	153.34	OK !	1.68	5.42	10.891.95	2.204.83	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
587	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	48.993.78	OK !	87.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
588	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	50.153.24	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
589	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	9.217.84	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
590	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	8.832.34	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
591	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	40.454.93	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
592	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	37.481.23	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
593	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	49.710.73	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
594	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	50.585.16	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
595	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	8.857.30	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
596	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	7.781.42	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
597	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	48.874.24	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
598	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	49.812.71	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
599	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	68.428.14	34.219.48	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
600	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	68.428.14	10.776.22	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
601	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	68.428.14	22.997.80	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
602	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	68.428.14	17.160.96	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
603	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	68.428.14	12.380.57	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
604	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	68.428.14	2.993.08	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
605	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	250.98	142.50	OK !	1.56	2.65	12.625.42	127.88	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
606	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	250.98	142.50	OK !	1.56	2.65	12.625.42	372.42	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
607	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	250.98	142.50	OK !	1.56	2.65	12.625.42	617.42	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
608	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	9.196.71	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
609	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	7.360.54	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
610	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	11.884.69	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
611	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	14.857.10	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
612	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	250.98	142.50	OK !	1.56	2.65	12.625.42	300.23	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
613	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	6.651.02	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
614	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.19	OK !	1.21	1.82	53.042.31	5.297.89	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
615	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	8.561.59	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
616	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	2.891.29	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
617	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	250.98	142.50	OK !	1.56	2.65	12.625.42	301.64	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
618	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	250.98	142.50	OK !	1.56	2.65	12.625.42	732.57	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
619	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	11.529.05	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
620	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	12.878.72	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
621	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	5.47	1.78	1.78	250.98	142.50	OK !	1.56	2.65	12.625.42	373.80	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
622	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	8.021.42	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
623	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	2.891.80	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
624	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	22.641.89	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
625	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	28.563.79	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
626	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	48.869.48	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
627	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	55.571.56	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
628	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	18.774.45	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
629	L 150 150 15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56.038.03	53.231.91	OK !	88.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25

f_y = 2.450.00 kg/cm2

f_u = 3.700.00 kg/cm2

E = 2.100.000,00 kg/cm2

α_s = 0,91 (Berlaku untuk baja)

α_c = 1,25 / 0,70 (Berlaku untuk beton)

No. Frame	Profil	A	h	i	Kontrol Kuat Tekan										Kontrol Kuat Tarik								
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Fraktur		
		(cm2)	(mm)	(mm)	bf/	rx	bf/ < λr	kL / i x	λ = kL/i x < 200	kL / i y	λ = kL/i y < 200	Ag (cm2)	x = Lbf/rx	x < 300	Nn	Vn	φNn	Pu	φNn > Nu	Pn = fy.Ag	φPn = 0,9 Pn	φPn > Pu	Ae = 85%.Ag	Pn = fu.Ae	φPn = 0,75 Pn
630	L 150.150.15	44.00	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042.31	44.244.65	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
631	L 150.150.15	44.00	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042.31	40.427.96	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
632	L 150.150.15	44.00	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042.31	42.199.26	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
633	L 150.150.15	44.00	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042.31	37.361.85	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
634	L 150.150.15	44.00	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042.31	38.842.07	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
635	L 150.150.15	44.00	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042.31	37.980.18	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
636	L 150.150.15	46.30	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22.744.13	5.029.48	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
637	L 150.150.15	46.30	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22.744.13	1.038.75	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
638	L 150.150.15	46.30	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22.744.13	3.444.68	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
639	L 150.150.15	46.30	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22.744.13	3.770.00	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
640	L 150.150.15	46.30	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22.744.13	209.71	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
641	L 150.150.15	46.30	150.00	15.00	10.00	12.91	OK !	4.58	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22.744.13	8.120.96	OK !	99.720.00	97.049.00	OK !	38.27	134.199.00	100.649.25
642	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	313.37	178.05	OK !	1.82	4.59	8.098.83	907.72	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
643	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	313.37	178.05	OK !	1.82	4.59	8.098.83	889.17	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
644	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	328.70	186.76	OK !	2.01	5.05	7.361.04	434.83	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
645	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	328.70	186.76	OK !	2.01	5.05	7.361.04	898.11	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
646	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	313.37	178.05	OK !	1.82	4.59	8.098.83	835.63	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
647	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	313.37	178.05	OK !	1.82	4.59	8.098.83	816.85	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
648	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	328.70	186.76	OK !	2.01	5.05	7.361.04	864.30	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
649	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	328.70	186.76	OK !	2.01	5.05	7.361.04	831.00	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
650	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	313.37	178.05	OK !	1.82	4.59	8.098.83	218.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
651	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	313.37	178.05	OK !	1.82	4.59	8.098.83	284.99	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
652	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	328.70	186.76	OK !	2.01	5.05	7.361.04	276.83	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
653	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	328.70	186.76	OK !	2.01	5.05	7.361.04	287.50	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
654	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.85	12.625.42	2.136.53	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
655	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.85	12.625.42	338.66	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
656	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.85	12.625.42	389.51	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
657	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.85	12.625.42	2.165.19	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
658	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.85	12.625.42	2.538.58	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
659	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.85	12.625.42	2.594.78	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
660	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856.00	364.75	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
661	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.881.09	4.730.27	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
661a	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.881.09	6.236.66	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
664	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856.00	350.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
665	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099.83	10.313.85	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
666	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099.83	1.401.52	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
667	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856.00	214.67	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
668	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.881.09	18.187.84	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
669	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.881.09	12.163.24	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
670	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856.00	998.63	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
671	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099.83	10.278.83	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
672	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099.83	8.402.82	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
673	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856.00	942.96	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
674	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.881.09	7.397.37	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
675	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.881.09	3.445.51	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
676	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856.00	371.83	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
677	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099.83	93.79	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
678	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099.83	12.784.28	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
679	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	462.75	196.91	OK !	2.12	3.62	10.850.62	852.68	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
680	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	462.75	196.91	OK !	2.12	3.62	10.850.62	8.234.58	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
681	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	462.75	196.91	OK !	2.12	3.62	10.850.62	5.013.60	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
682	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	462.75	196.91	OK !	2.12	3.62	10.850.62	56.83	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
683	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	462.75	196.91	OK !	2.12	3.62	10.850.62	5.472.89	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
684	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	462.75	196.91	OK !	2.12	3.62	10.850.62	5.886.69	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
685	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	231.37	98.46	OK !	1.06	1.81	37.831.30	17.425.89	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
686	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	231.37	98.46	OK !	1.06	1.81	37.831.30	7.361.09	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
687	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	231.37	98.46	OK !	1.06	1.81	37.831.30	15.012.47	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50

No. Frame	Profil	L (cm)	h (cm)	L (cm)	Kontrol Kuat Desain															Kontrol Kuat Satuan						
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil						Kontrol Lelah			Kontrol Puncak			
					OK	λf	λf < λr	λ = KL/r	λc = λ/(π√(fy/E))	λc < 1,2	λc < 1,5	λc < 2,0	λc < 200		Vn	Vn	φVn	Pu	φVn > Pu	Pn = Ag.Fy	φPn = 0,9 Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0,75 Pn	φ
688	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	2.736.67	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
689	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	19.264.90	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
690	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	9.031.80	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
691	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	9.229.08	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
692	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	4.219.27	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
693	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	2.682.22	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
694	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	9.943.13	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
695	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	21.810.43	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
696	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	21.021.03	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
697	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	20.960.25	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
698	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	22.176.22	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
699	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	21.099.08	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
700	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	10.943.69	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
701	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	23.469.12	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
702	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	13.425.04	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
703	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	3.191.43	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
704	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	8.142.89	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
705	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	14.873.99	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
706	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	19.098.28	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
707	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	13.197.73	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
708	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	18.257.93	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
709	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	17.162.85	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
710	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	19.078.28	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
711	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	18.738.04	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
712	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	15.686.60	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
713	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	33.661.09	18.436.25	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
714	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	22.997.90	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
715	L 90.90.9	15.95	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	313.37	178.05	OK !	1.82	4.16	8.888.83	695.33	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
716	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	313.37	178.05	OK !	1.82	4.16	8.888.83	695.66	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
717	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.62	OK !	1.83	4.17	8.823.34	780.83	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
718	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.62	OK !	1.83	4.17	8.823.34	1.009.23	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
719	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.62	OK !	1.83	4.17	8.823.34	282.94	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
720	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.62	OK !	1.83	4.17	8.823.34	278.26	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
721	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	313.37	178.05	OK !	1.82	4.16	8.888.83	311.02	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
722	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	313.37	178.05	OK !	1.82	4.16	8.888.83	388.57	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
723	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.62	OK !	1.83	4.17	8.823.34	351.28	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
724	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.62	OK !	1.83	4.17	8.823.34	1.010.67	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
725	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	313.37	178.05	OK !	1.82	4.16	8.888.83	781.84	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
726	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	313.37	178.05	OK !	1.82	4.16	8.888.83	1.063.38	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
727	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14.806.00	628.19	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
728	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14.806.00	2.371.40	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
729	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14.806.00	2.791.37	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
730	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14.806.00	2.760.91	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
731	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14.806.00	2.366.48	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
732	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14.806.00	418.30	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
733	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	251.78	520.32	OK !	1.30	2.10	17.734.48	758.32	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
734	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	10.599.95	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
735	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	982.36	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
736	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	251.78	520.32	OK !	1.30	2.10	17.734.48	628.12	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
737	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	8.553.28	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
738	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	173.66	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
739	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	251.78	520.32	OK !	1.30	2.10	17.734.48	519.91	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
740	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	980.56	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
741	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28.999.03	10.599.40	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
742	L 90.90.9	15.50	90.00	9.00	12.91	12.91	OK !	2.74	3.45	1.78	1.78	251.78	520.32	OK !	1.30	2.10	17.734.48	350.97	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
743	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	1.640.34	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	
744	L 120.120.11	25.40	125.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	1.273.87	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50	

No. Frame	Profil	A (cm²)	x (mm)	y (mm)	Kontrol Kuat Tekan															Kontrol Kuat Tarik				
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
					Mt	Vt	bf / 2tf	lx = ly	ix (cm)	iy (cm)	imin (cm)	Lk (cm)	λ = Lk/imin	λ < 200	Nt	Ae	øPn	Pu	øPn > Pu	Pn = Ag.Fy	øPn = 0.9.Pn	øPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	øPn = 0.75 Pn
145	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.12	37,734.48	841.57	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
146	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.25	298.54	127.04	OK !	1.32	2.14	26,089.93	4,152.23	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
147	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.32	2.14	26,089.93	16,717.94	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
148	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.12	37,734.48	788.23	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
149	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	12,751.96	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
150	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	8,780.71	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
151	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.76	90.11	OK !	0.97	1.57	40,497.84	31,259.44	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
152	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.25	211.76	90.11	OK !	0.97	1.57	40,497.84	14,259.42	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
153	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.76	90.11	OK !	0.97	1.57	40,497.84	14,050.01	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
154	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.76	90.11	OK !	0.97	1.57	40,497.84	445.40	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
155	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.76	90.11	OK !	0.97	1.57	40,497.84	10,148.20	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
156	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.25	211.76	90.11	OK !	0.97	1.57	40,497.84	13,150.45	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
157	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	180.23	OK !	1.94	4.17	12,953.02	5,197.92	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
158	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	180.23	OK !	1.94	4.17	12,953.02	4,063.13	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
159	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	180.23	OK !	1.94	4.17	12,953.02	1,992.47	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
160	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	180.23	OK !	1.94	4.17	12,953.02	5,277.78	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
161	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	180.23	OK !	1.94	4.17	12,953.02	5,873.16	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
162	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	180.23	OK !	1.94	4.17	12,953.02	1,250.07	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
163	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	10,553.15	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
164	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	4,187.34	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
165	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	3,608.22	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
166	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	10,303.93	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
167	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	25,818.55	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
168	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	21,084.47	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
169	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	23,731.90	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
170	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	23,823.25	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
171	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	4,175.73	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
172	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	3,809.93	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
173	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	5,410.58	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
174	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	11,197.86	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
175	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	22,533.43	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
176	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	21,437.28	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
177	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	23,087.32	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
178	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	25,882.48	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
179	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	26,258.25	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
180	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	20,575.03	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
181	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	18,531.35	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
182	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	17,009.67	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
183	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	15,159.10	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
184	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	24,000.74	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
185	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	23,067.37	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
186	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.24	26,089.93	23,267.65	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50
187	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK !	1.74	3.79	8,840.24	999.48	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
188	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK !	1.74	3.79	8,840.24	1,187.84	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
189	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.92	OK !	1.83	4.17	8,023.34	765.05	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
190	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.92	OK !	1.83	4.17	8,023.34	1,104.49	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
191	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	205.41	182.16	OK !	1.75	3.97	8,760.08	721.29	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
192	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK !	1.74	3.79	8,840.24	1,066.38	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
193	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.92	OK !	1.83	4.17	8,023.34	816.07	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
194	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.92	OK !	1.83	4.17	8,023.34	1,187.24	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
195	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.92	OK !	1.83	4.17	8,023.34	1,187.24	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
196	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK !	1.74	3.79	8,840.24	338.92	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
197	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK !	1.74	3.79	8,840.24	269.47	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
198	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.92	OK !	1.83	4.17	8,023.34	340.99	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
199	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	298.54	169.92	OK !	1.83	4.17	8,023.34	406.82	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
200	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.12	37,734.48	563.38	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
201	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.12	37,734.48	2,884.86	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
202	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.12	37,734.48	3,087.78	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25

No. Frame	Profil	h	b	t	Kontrol Kuat Tekan																		Kontrol Roll Tank								
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil								Kontrol Leleh			Kontrol Tekuk					
		(cm)	(mm)	(mm)	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO	OK / NO
803	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	231.76	126.32	OK	1.18	2.93	17,734.48	3,049.03	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
804	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	231.76	126.32	OK	1.18	2.93	17,734.48	2,443.30	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
805	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	231.76	126.32	OK	1.18	1.78	17,734.48	389.78	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
806	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	1,549.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
807	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	284.29	120.97	OK	1.30	2.12	28,748.76	394.13	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
808	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	284.29	120.97	OK	1.30	2.12	28,748.76	1,543.93	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
809	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	389.78	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
810	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	284.29	120.97	OK	1.30	2.12	28,748.76	6,565.73	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
811	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	284.29	120.97	OK	1.30	2.12	28,748.76	11,456.14	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
812	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	231.76	126.32	OK	1.18	2.93	17,734.48	2,443.30	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
813	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	231.76	126.32	OK	1.18	2.93	17,734.48	2,443.30	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
814	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	231.76	126.32	OK	1.18	2.93	17,734.48	2,443.30	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
815	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK	1.74	3.78	9,849.24	641.91	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
816	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK	1.74	3.78	9,849.24	1,304.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
817	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	328.84	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
818	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	284.29	120.97	OK	1.30	2.12	28,748.76	4,668.95	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
819	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	564.73	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
820	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	298.81	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
821	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	10,571.88	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
822	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.71	153.81	OK	1.68	2.43	10,852.07	1,004.08	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
823	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.71	153.81	OK	1.68	2.43	10,852.07	1,304.81	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
824	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK	1.74	3.78	9,849.24	1,026.78	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
825	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK	1.74	3.78	9,849.24	1,419.48	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
826	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	942.08	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
827	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	284.29	120.97	OK	1.30	2.12	28,748.76	1,216.72	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
828	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	284.29	120.97	OK	1.30	2.12	28,748.76	15,520.38	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
829	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	887.30	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
830	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	9,821.29	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
831	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	9,672.88	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
832	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.71	153.81	OK	1.68	2.43	10,852.07	57.31	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
833	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.71	153.81	OK	1.68	2.43	10,852.07	586.92	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
834	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK	1.74	3.78	9,849.24	270.68	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
835	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	284.29	161.53	OK	1.74	3.78	9,849.24	419.45	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
836	L 125.125.11	39.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	188.69	80.38	OK	0.81	1.42	43,490.40	699.30	OK !	89,060.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
837	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	192.16	81.77	OK	0.88	1.42	43,082.77	6,332.45	OK !	89,060.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
838	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	188.69	80.38	OK	0.81	1.42	43,490.40	737.87	OK !	89,060.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
839	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	192.16	81.77	OK	0.88	1.42	43,082.77	12,499.73	OK !	89,060.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
840	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	192.16	81.77	OK	0.88	1.42	43,082.77	12,543.93	OK !	89,060.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
841	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	192.16	81.77	OK	0.88	1.42	43,082.77	14,234.87	OK !	89,060.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
842	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	576.21	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
844	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	2,914.15	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
845	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	3,354.83	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
846	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	3,166.97	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
847	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	2,814.23	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
848	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	100.18	OK	1.18	1.78	21,134.77	533.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25						
849	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	22,212.75	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
850	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	2,000.09	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
851	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	7,313.53	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
852	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	327.44	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
853	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	4,185.78	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
854	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	5,921.88	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
855	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	853.30	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
856	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	269.52	114.28	OK	1.23	1.80	32,224.98	383.39	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
857	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	616.38	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
858	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	8,328.66	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
859	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	12,143.81	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						
860	L 125.125.11	25.40	125.00	11.00	10.91	12.91	OK !	3.68	4.82	2.35	2.35	270.71	115.20	OK	1.24	1.82	31,704.79	27,350.48	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50						

No. Frame	Profil	A	b	r	Kontrol Kuat Tekan																Kontrol Kuat Tarik										
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kekuatan Profil						Kontrol Leleh				Kontrol Putus					
		(cm)	(mm)	(mm)	bf	tf	bf / 2tf	Lx / rx	Ly / ry	Lk / imin	imin (cm)	Lk / imin - min	λ < 200	λc	ω	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0,9 Pn	φPn > Pu	Ae = 90% Ag	Pn = Ae.Fu	φPn = 0,75 Pn							
861	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.28	OK !	1.24	1.82	31.104.79	28.751.66	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
862	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.28	OK !	1.24	1.82	31.104.79	27.992.15	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
863	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.28	OK !	1.24	1.82	31.104.79	27.943.79	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
864	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.28	OK !	1.24	1.82	31.104.79	28.444.42	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
865	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.28	OK !	1.24	1.82	31.104.79	28.969.10	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
866	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.28	OK !	1.24	1.82	31.104.79	3.033.71	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
867	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	20.897.47	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
868	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	20.105.19	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
869	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	20.083.17	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
870	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	28.983.73	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
871	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	20.114.45	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
872	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	23.002.91	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
873	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	28.294.62	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
874	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	24.132.82	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
875	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	17.899.09	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
876	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	7.734.47	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
877	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	1.447.12	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
878	L 120.120.11	25.40	120.00	11.00	12.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28.748.70	12.571.59	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50						
879	L 100.100.10	19.20	100.00	10.00	10.03	12.91	OK !	3.04	3.82	1.95	1.95	272.55	88.49	OK !	0.95	1.49	30.999.99	11.918.59	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
880	L 100.100.10	19.20	100.00	10.00	10.03	12.91	OK !	3.04	3.82	1.95	1.95	272.55	88.49	OK !	0.95	1.49	30.999.99	11.939.97	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
881	L 100.100.10	19.20	100.00	10.00	10.03	12.91	OK !	3.04	3.82	1.95	1.95	272.55	88.49	OK !	0.95	1.49	30.999.99	7.554.27	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
882	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	272.55	88.49	OK !	0.95	1.49	30.999.99	478.52	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
883	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	345.10	126.97	OK !	1.91	4.54	10.154.40	1.601.28	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
884	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	345.10	126.97	OK !	1.91	4.54	10.154.40	6.614.53	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
885	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	345.10	126.97	OK !	1.91	4.54	10.154.40	24.10	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
886	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	345.10	126.97	OK !	1.91	4.54	10.154.40	3.341.57	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
887	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	345.10	126.97	OK !	1.91	4.54	10.154.40	4.093.21	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
888	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	345.10	126.97	OK !	1.91	4.54	10.154.40	4.799.31	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
889	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	272.55	98.04	OK !	1.09	1.89	23.225.34	329.00	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
890	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.581.60	885.00	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
891	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.581.60	15.415.44	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
892	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	272.55	98.04	OK !	1.09	1.89	23.225.34	384.00	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
893	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	16.160.28	13.952.00	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
894	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	16.160.28	1.081.68	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
895	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	272.55	98.04	OK !	1.09	1.89	23.225.34	382.35	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
896	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.581.60	2.840.10	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
897	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.581.60	9.753.19	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
898	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	272.55	98.04	OK !	1.09	1.89	23.225.34	488.58	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
899	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	16.160.28	9.040.40	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
900	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	16.160.28	1.412.64	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
901	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	272.55	98.04	OK !	1.09	1.89	23.225.34	248.90	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
902	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.581.60	12.512.44	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
903	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.581.60	10.268.01	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
904	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	272.55	88.49	OK !	0.95	1.49	30.999.99	8.317.99	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
905	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	272.55	88.49	OK !	0.95	1.49	30.999.99	7.965.33	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
906	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	272.55	98.04	OK !	1.09	1.89	23.225.34	782.29	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
907	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	16.160.28	9.543.99	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
908	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	16.160.28	1.881.15	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00						
909	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	257.91	148.54	OK !	1.58	3.11	11.956.02	809.77	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
910	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	257.91	148.54	OK !	1.58	3.11	11.956.02	1.259.48	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
911	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	270.71	153.81	OK !	1.68	3.43	10.852.97	1.187.12	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
912	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	270.71	153.81	OK !	1.68	3.43	10.852.97	1.560.88	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
913	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	257.91	148.54	OK !	1.58	3.11	11.956.02	245.45	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
914	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	257.91	148.54	OK !	1.58	3.11	11.956.02	442.89	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
915	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	270.71	153.81	OK !	1.68	3.43	10.852.97	152.37	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
916	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	270.71	153.81	OK !	1.68	3.43	10.852.97	946.59	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						
917	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	257.91	148.54	OK !	1.58	3.11	11.956.02	1.668.18	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25						

No. Frame	Profil	h	b	t	Kontrol Kuat Tekan									Kontrol Kuat Tarik								
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kekuatan Profil					Kontrol Level			Kontrol Patch		
		(cm)	(mm)	(mm)	bf/	λr	bf/ < λr	Lx = Ly	r_y (cm)	r_x (cm)	min ? (cm)	Lk / min r	x = (per r)^2	λ = 200	Nc	Nn	φPn	Rn	φPn > Pu	Tu = Ag.Fy	φPn = 0.9 Pn	φPn > Pu	Ae = (85% Ag)	Pn = Ae.Fu	φPn = 0.75 Pn
920	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	148.54	OK !	1.58	3.91	11.958.01	187.67	OK !	67.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
921	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	148.54	OK !	1.58	3.91	11.958.01	187.67	OK !	67.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
922	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	148.54	OK !	1.58	3.91	11.958.01	187.67	OK !	67.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
923	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	148.54	OK !	1.58	3.91	11.958.01	187.67	OK !	67.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
924	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	148.54	OK !	1.58	3.91	11.958.01	187.67	OK !	67.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
925	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	148.54	OK !	1.58	3.91	11.958.01	187.67	OK !	67.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
926	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	148.54	OK !	1.58	3.91	11.958.01	187.67	OK !	67.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
927	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	148.54	OK !	1.58	3.91	11.958.01	187.67	OK !	67.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
928	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	11.782.18	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
929	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	11.561.53	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
930	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	8.984.15	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
931	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	9.184.65	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
932	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	11.652.19	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
933	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	14.111.26	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
934	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	14.111.26	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
935	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	18.115.79	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
936	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	5.911.72	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
937	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	13.674.54	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
938	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	11.746.89	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
939	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	11.488.41	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
940	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	14.559.18	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
941	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	14.234.45	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
942	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	12.355.13	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
943	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	11.606.91	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
944	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	3.051.79	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
945	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	5.555.20	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
946	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	7.854.80	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
947	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	7.984.29	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
948	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	3.102.84	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
949	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	5.555.20	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
950	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	3.442.67	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
951	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.83	OK !	1.49	2.79	16.501.60	2.281.92	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
952	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	148.54	OK !	1.58	3.91	11.958.01	187.67	OK !	67.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
953	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	14.466.29	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
954	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.90	OK !	0.94	1.47	25.315.91	367.48	OK !	37.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
955	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	9.640.91	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
956	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	439.73	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
957	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.90	OK !	0.94	1.47	25.315.91	367.93	OK !	37.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
958	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	2.274.42	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
959	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	10.919.78	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
960	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.90	OK !	0.94	1.47	25.315.91	374.34	OK !	37.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
961	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	9.943.66	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
962	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	439.73	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
963	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.90	OK !	0.94	1.47	25.315.91	343.08	OK !	37.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
964	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	8.413.52	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
965	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	1.252.37	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
966	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.90	OK !	0.94	1.47	25.315.91	728.42	OK !	37.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
967	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	10.004.38	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
968	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.26	OK !	1.42	2.53	18.180.28	11.340.66	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
969	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.90	OK !	0.94	1.47	25.315.91	884.87	OK !	37.200.00	33.480.30	OK !	13.95	51.615.00	38.711.25
970	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	8.525.34	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
971	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	12.955.82	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
972	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	17.980.53	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
973	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	17.823.20	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
974	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	17.754.57	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
975	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	17.938.89	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
976	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	18.230.60	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
977	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.31	19.981.94	15.171.93	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00

No. Frame	Profil	h	b	t	Kontrol Kompak			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Kuat Tekan			Kontrol Kuat Tarik		
																			Kontrol Leleh			Kontrol Patah		
		(cm)	(cm)	(mm)	bf/2tf	170/√fy	bf/2tf ≤ 170/√fy	h/tw	1680/√fy	h/tw ≤ 1680/√fy	Lk (cm)	λc = (Lk/i)/π√(fy/E)	ω	Nu	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0.9 Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0.75 Pn
978	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	19,960.02	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
979	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	17,942.24	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
980	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	15,683.98	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
981	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	16,964.31	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
982	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	17,539.15	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
983	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	16,244.35	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
984	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	17,789.80	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
985	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	17,789.80	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
986	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	15,869.30	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
987	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	16,467.71	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
988	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	17,436.56	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
989	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	15,355.98	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
990	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	15,229.10	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
991	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	14,857.82	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
992	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	15,015.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
993	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	15,923.58	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
994	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	15,853.02	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
995	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	257.91	132.28	OK !	1.42	2.53	19,189.28	14,804.15	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
996	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33,327.17	10,858.38	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
997	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33,327.17	1,448.84	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
998	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33,327.17	9,605.56	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
999	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33,327.17	11,322.17	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1000	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33,327.17	3,273.94	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1001	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.38	33,327.17	2,942.71	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1002	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	96.90	OK !	0.94	1.42	25,315.91	169.61	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1003	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	96.90	OK	0.94	1.42	25,315.91	2,060.28	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1004	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	96.90	OK !	0.94	1.42	25,315.91	442.32	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1005	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	246.01	155.78	OK !	1.50	2.63	13,140.88	1,071.78	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1006	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	246.01	155.78	OK !	1.50	2.63	13,140.88	1,482.85	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1007	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	145.54	OK !	1.58	3.11	11,956.02	996.07	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1008	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	145.54	OK !	1.58	3.11	11,956.02	1,455.24	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1009	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	96.90	OK !	0.94	1.42	25,315.91	2,613.97	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1010	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	246.01	155.78	OK !	1.50	2.63	13,140.88	288.66	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1011	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	246.01	155.78	OK !	1.50	2.82	13,140.88	447.30	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1012	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	145.54	OK !	1.58	3.11	11,956.02	280.70	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1013	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	145.54	OK !	1.58	3.11	11,956.02	518.33	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1014	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	96.90	OK !	0.94	1.42	25,315.91	2,060.28	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1015	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	246.01	155.78	OK !	1.50	2.63	13,140.88	1,057.62	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1016	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	246.01	155.78	OK !	1.50	2.63	13,140.88	1,430.99	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1017	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	145.54	OK !	1.58	3.11	11,956.02	898.03	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1018	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	257.91	145.54	OK !	1.58	3.11	11,956.02	1,372.90	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1019	L 90.90.9	13.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	96.90	OK !	0.94	1.42	25,315.91	2,518.79	OK !	37,260.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1020	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	17,948.03	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1021	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	11,960.53	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1022	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	18,120.95	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1023	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	15,112.02	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1024	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	17,541.80	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1025	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	19,598.15	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1026	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	17,020.57	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1027	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	14,122.80	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1028	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	19,625.34	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1029	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	20,128.18	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1030	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	19,537.00	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1031	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,951.94	17,537.31	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1032	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	133.33	68.38	OK !	0.74	1.29	35,884.47	3,283.56	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1033	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	133.33	68.38	OK !	0.74	1.29	35,884.47	3,852.87	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1034	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.82	1.95	1.95	133.33	68.38	OK !	0.74	1.29	35,884.47	8,844.27	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00

No. Frame	Profil	h	b	t	Kontrol Kuat Tekan									Kontrol Kuat Tarik								
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kekuatan Profil						Kontrol Leleh			Kontrol Putus		
		(cm)	(mm)	(mm)																					
1035	L 100 100 10	19.20	100.00	10.00																					
1036	L 100 100 10	19.20	100.00	10.00																					
1037	L 100 100 10	19.20	100.00	10.00																					
1038	L 90 90 9	16.50	90.00	9.00																					
1039	L 100 100 10	19.20	100.00	10.00																					
1040	L 100 100 10	19.20	100.00	10.00																					
1041	L 90 90 9	16.50	90.00	9.00																					
1042	L 100 100 10	19.20	100.00	10.00																					
1043	L 100 100 10	19.20	100.00	10.00																					
1044	L 100 100 10	19.20	100.00	10.00																					
1045	L 90 90 9	16.50	90.00	9.00																					
1046	L 90 90 9	16.50	90.00	9.00																					
1047	L 100 100 10	19.20	100.00	10.00																					
1048	L 100 100 10	19.20	100.00	10.00																					
1049	L 90 90 9	16.50	90.00	9.00																					
1050	L 100 100 10	19.20	100.00	10.00																					
1051	L 100 100 10	19.20	100.00	10.00																					
1052	L 90 90 9	16.50	90.00	9.00																					
1053	L 100 100 10	19.20	100.00	10.00																					
1054	L 100 100 10	19.20	100.00	10.00																					
1055	L 100 100 10	19.20	100.00	10.00																					
1056	L 100 100 10	19.20	100.00	10.00																					
1057	L 100 100 10	19.20	100.00	10.00																					
1058	L 100 100 10	19.20	100.00	10.00																					
1059	L 100 100 10	19.20	100.00	10.00																					
1060	L 100 100 10	19.20	100.00	10.00																					
1061	L 90 90 9	16.50	90.00	9.00																					
1062	L 90 90 9	16.50	90.00	9.00																					
1063	L 90 90 9	16.50	90.00	9.00																					
1064	L 90 90 9	16.50	90.00	9.00																					
1065	L 90 90 9	16.50	90.00	9.00																					
1066	L 90 90 9	16.50	90.00	9.00																					
1067	L 90 90 9	16.50	90.00	9.00																					
1068	L 90 90 9	16.50	90.00	9.00																					
1069	L 90 90 9	16.50	90.00	9.00																					
1070	L 90 90 9	16.50	90.00	9.00																					
1071	L 90 90 9	16.50	90.00	9.00																					
1072	L 90 90 9	16.50	90.00	9.00																					
1073	L 90 90 9	16.50	90.00	9.00																					
1074	L 90 90 9	16.50	90.00	9.00																					
1075	L 90 90 9	16.50	90.00	9.00																					
1076	L 90 90 9	16.50	90.00	9.00																					
1077	L 90 90 9	16.50	90.00	9.00																					
1078	L 90 90 9	16.50	90.00	9.00																					
1079	L 100 100 10	19.20	100.00	10.00																					
1080	L 100 100 10	19.20	100.00	10.00																					
1081	L 100 100 10	19.20	100.00	10.00																					
1082	L 100 100 10	19.20	100.00	10.00																					
1083	L 100 100 10	19.20	100.00	10.00																					
1084	L 100 100 10	19.20	100.00	10.00																					
1085	L 100 100 10	19.20	100.00	10.00																					
1086	L 100 100 10	19.20	100.00	10.00																					
1087	L 100 100 10	19.20	100.00	10.00																					
1088	L 100 100 10	19.20	100.00	10.00																					
1089	L 100 100 10	19.20	100.00	10.00																					
1090	L 100 100 10	19.20	100.00	10.00																					
1091	L 100 100 10	19.20	100.00	10.00																					

No. Frame	Profil	h	b	t	Kontrol Kuat Tekan															Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
		(cm)	(mm)	(mm)	bf/t	15/fy	bf/t < 15/fy	h/tw < 1100/√fy	h/tw (cm)	1100/√fy (cm)	Lk (cm)	i_x (cm)	Lk/i_x (min)	λ < 200	λc	w	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0.9 Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0.75 Pn
1102	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	18,757.17	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1103	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1104	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1105	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1106	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1107	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1108	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1109	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1110	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1111	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1112	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1113	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1114	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1115	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1116	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1117	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1118	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1119	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1120	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1121	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1122	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1123	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1124	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1125	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1126	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1127	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1128	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1129	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1130	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1131	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1132	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1133	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1134	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1135	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1136	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1137	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1138	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1139	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1140	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1141	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1142	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1143	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1144	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1145	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1146	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1147	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1148	L 100 100 10	19.20	100.00	10.00	10.00	12.91	OK !	3.84	3.92	1.95	1.95	225.46	115.62	OK !	1.24	1.64	23,790.54	978.66	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1149	L 90 90 9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	199.54	102.32	OK !	1.10	2.11	21,871.58	1,617.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25

No	Profil	A	b	t	Kontrol Kuat Tekan			Kontrol Kelangsungan						Kontrol Kapasitas Profil					Kontrol Kuat Tarik			Kontrol Kuat Tarik		
																			Kontrol Leleh			Kontrol Patah		
		(cm²)	(mm)	(mm)																				
1149	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	223.46	84.82	OK !	0.73	1.38	29.480.96	434.46	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1150	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.87	1.95	1.95	225.46	128.59	OK !	1.30	2.11	21.871.56	2.549.32	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1151	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.87	1.95	1.95	225.46	128.59	OK !	1.30	2.11	21.871.56	1.809.00	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1152	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	223.46	128.59	OK !	1.38	2.28	15.645.56	1.345.17	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1153	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	223.46	128.59	OK !	1.38	2.28	15.645.56	1.879.40	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1154	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.87	1.95	1.95	225.46	115.82	OK !	1.24	1.94	23.790.54	25.669.76	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1155	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.87	1.95	1.95	225.46	115.82	OK !	1.24	1.94	23.790.54	9.611.10	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1156	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.87	1.95	1.95	225.46	115.82	OK !	1.24	1.94	23.790.54	20.667.50	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1157	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.87	1.95	1.95	225.46	115.82	OK !	1.24	1.94	23.790.54	21.299.62	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1158	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.87	1.95	1.95	225.46	134.86	OK !	1.24	1.94	24.307.60	369.43	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1159	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.87	1.95	1.95	225.46	115.82	OK !	1.24	1.94	23.790.54	19.940.00	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1160	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.80	82.39	OK !	0.87	1.24	29.915.18	5.155.50	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1161	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.80	82.39	OK !	0.87	1.24	29.915.18	3.160.50	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1162	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.80	82.39	OK !	0.87	1.24	29.915.18	3.573.89	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1163	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.80	82.39	OK !	0.87	1.24	29.915.18	3.172.38	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1164	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.80	82.39	OK !	0.87	1.24	29.915.18	3.137.40	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1165	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.80	82.39	OK !	0.87	1.24	29.915.18	3.583.91	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1166	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.41	73.53	OK !	0.79	1.34	27.824.60	3.064.36	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1167	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.41	73.53	OK !	0.79	1.34	27.824.60	2.592.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1168	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.41	73.53	OK !	0.79	1.34	27.824.60	2.619.34	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1169	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.41	73.53	OK !	0.79	1.34	27.824.60	6.102.89	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1170	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	159.41	73.53	OK !	0.79	1.34	27.824.60	3.132.87	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1171	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	149.02	84.87	OK !	0.91	1.45	25.734.03	7.743.58	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1172	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	149.02	84.87	OK !	0.91	1.45	25.734.03	7.743.58	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1173	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	149.02	84.87	OK !	0.91	1.45	25.734.03	4.388.32	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1174	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	149.02	84.87	OK !	0.91	1.45	25.734.03	3.816.71	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1175	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	149.02	84.87	OK !	0.91	1.45	25.734.03	4.827.81	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1176	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	149.02	84.87	OK !	0.91	1.45	25.734.03	5.256.42	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1177	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	5.771.50	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1178	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	3.330.31	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1179	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	5.870.50	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1180	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	6.967.81	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1181	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	7.427.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1182	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.532.49	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1183	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.038.18	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1184	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	6.967.81	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1185	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	7.427.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1186	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.532.49	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1187	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.038.18	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1188	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	6.967.81	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1189	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	7.427.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1190	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.532.49	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1191	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.038.18	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1192	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	6.967.81	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1193	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	7.427.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1194	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.532.49	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1195	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.038.18	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1196	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	6.967.81	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1197	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	288.50	163.92	OK !	1.76	3.86	9.555.24	7.427.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1198	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.532.49	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1199	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	281.66	148.67	OK !	1.60	3.20	11.615.63	9.715.69	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1200	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	281.66	148.67	OK !	1.60	3.20	11.615.63	8.386.64	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1201	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.421.25	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1202	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.381.66	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1203	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	281.66	148.67	OK !	1.60	3.20	11.615.63	9.468.51	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1204	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	281.66	148.67	OK !	1.60	3.20	11.615.63	9.181.87	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1205	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.638.28	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1206	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	274.71	156.08	OK !	1.68	3.53	10.538.59	8.525.80	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1207	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	281.66	148.67	OK !	1.60	3.20	11.615.63	8.624.87	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25

fy = 3.160,00 kg/cm²

E = 2.100.000,00 kg/cm²

$r_x = \frac{2cm}{\sqrt{\frac{I_x}{A}}}$ = 12,91 (Radius of Gyration)

$r_y = \frac{22,00}{\sqrt{\frac{I_y}{A}}}$ = 4.429,39 (Radius of Gyration)

No. Frame	Profil	A	B	t	Kontrol Tulangan			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Rasio Tulangan			Kontrol Rasio Tanah		
					Kontrol Penampang														Kontrol Leleh			Kontrol Patah		
		(cm²)	(mm)	(mm)	bf/t	λr	bf/t < λr	λx = kl/r	λc = (λx/π)√(fy/E)	λx < 200	λy = kl/r	λc = (λy/π)√(fy/E)	λy < 200	λx	λy	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0,9 Pn	φPn > Pu	Ae = 90% Ag	Pn = Ae.Fu	φPn = 0,75 Pn
1236																								
1237																								
1238																								
1239																								
1240																								
1241																								
1242																								
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- [illegible] kg/cm²
- [illegible] kg/cm²
- [illegible] ([illegible])
- [illegible] ([illegible])

No. Frame	Path	h	b	t	Kontrol Kuat Tekan										Kontrol Kuat Tarik											
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Lentur			Kontrol Aksial			
		([illegible])	([illegible])	([illegible])	λf	εr	λf ≤ λr	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	λ < 200	ri	ir	φPn	Pu	φPn > Pu	Mu = Ag.Fy	φMn = 0.9 Mr	φMn > Mu	Ae = 20%.Ag	Pn = Ae.Fu	φPn = 0.75 Pn	
1245	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	119.61	67.96	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1246	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	119.61	67.96	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1247	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	119.61	67.96	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1248	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	119.61	67.96	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1249	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	151.73	86.21	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1250	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	151.73	86.21	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1273	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	151.73	86.21	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1274	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	151.73	86.21	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1275	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	151.73	86.21	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1276	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	138.18	78.51	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1277	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	138.18	78.51	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1278	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	138.18	78.51	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1279	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	138.18	78.51	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1280	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	138.18	78.51	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1281	[illegible]	15.50	90.00	9.00	[illegible]	12.91	OK !	2.74	3.45	1.76	1.76	138.18	78.51	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

HASIL OUPUT SAP2000
TOWER ALTERNATIF 2

No. Frame	Profil	A	b	t	Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kekuatan Profil						Kontrol Kuat Tarik			Kontrol Kuat Tarik		
																				Kontrol Leleh			Kontrol Fraktur		
		(cm²)	(mm)	(mm)	bf/	13/	bf/ < 13/	h/tw < 1680/√fy	b/tf < 200/√fy	h/tw < 253/√(fy-fr)	h/tw < 1680/√(fy-fr)	b/tf < 253/√(fy-fr)	b/tf < 200/√(fy-fr)	λs < λr (kompak)	λs < 200	Mn	Mr	φMn	Pn	φPn > Pu	Pn = Ag.Fy	φPn > 0,9.Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0,75.Pn
1	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	950.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
2	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	950.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
3	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	144.51	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
4	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
5	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
6	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
7	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
8	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
9	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
10	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
11	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
12	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
13	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
14	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
15	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
16	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
17	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
18	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
19	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
20	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
21	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
22	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
23	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
24	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
25	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
26	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
27	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
28	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
29	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
30	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
31	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
32	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
33	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
34	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
35	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
36	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	200.00	113.64	OK !	1.22	1.87	16,882.25	189.12	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
37	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	44,210.78	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
38	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	44,210.78	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
39	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	44,210.78	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
40	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	44,210.78	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
41	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	44,210.78	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
42	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	44,210.78	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
43	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	44,210.78	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
44	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	44,210.78	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
45	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	47,648.26	OK !	49,123.09	47,648.26	OK !	18.42	68,158.28	51,118.71
46	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	42,423.40	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
47	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	42,204.74	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
48	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	41,264.36	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
49	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	824.19	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
50	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	3,819.84	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
51	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	7,408.89	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
52	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	11,901.92	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
53	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	17,393.44	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
54	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	23,483.81	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
55	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	30,569.23	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
56	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	38,548.72	OK !	49,123.09	44,210.78	OK !	18.42	68,158.28	51,118.71
57	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	19.00	19.00	19.00	150.00	1.96	OK !	0.92	1.00	49,123.09	47,648.26	OK !	49,123.09	47,648.26	OK !	18.42	68,158.28	51,118.71

No. Frame	Profil	A	B	t	Kontrol Fuse Taken														Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsungan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
58	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	42,421.40	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
59	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	42,358.74	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
60	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	41,294.35	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
61	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	1,919.22	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
62	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	1,866.89	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
63	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	14,215.84	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
64	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	23,979.57	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
65	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	34,123.80	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
66	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	46,609.22	OK !	49,123.08	47,849.39	OK !	18.42	68,158.28
67	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	42,940.85	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
68	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	41,446.83	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
69	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	39,581.23	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
70	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	37,746.19	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
71	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	35,939.26	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
72	SC 114.3 x 6.02	20.47	114.30	6.02	18.98	1,420.09	OK !	18.98	18.98	18.98	28.98	150.00	1.96	OK !	0.92	1.00	49,123.08	33,408.00	OK !	49,123.08	44,210.78	OK !	18.42	68,158.28
73	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	190.20	64.91	OK !	0.70	1.25	78,547.65	1,426.05	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
74	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	190.20	64.91	OK !	0.70	1.25	78,547.65	5,436.85	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
75	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	190.20	64.91	OK !	0.70	1.25	78,547.65	6,866.53	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
76	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	95.10	32.46	OK !	0.35	1.05	92,382.92	4,101.25	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
77	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	95.10	32.46	OK !	0.35	1.05	92,382.92	24,726.68	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
78	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	95.10	32.46	OK !	0.35	1.05	92,382.92	28,660.00	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
79	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	285.29	97.37	OK !	1.05	1.58	58,712.34	44,353.32	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
80	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	285.29	97.37	OK !	1.05	1.58	58,712.34	39,568.28	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
81	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	285.29	97.37	OK !	1.05	1.58	58,712.34	5,152.04	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
82	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	88.56	30.23	OK !	0.33	1.03	93,471.29	1,772.54	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
83	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	88.56	30.23	OK !	0.33	1.03	93,471.29	19,467.80	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
84	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	88.56	30.23	OK !	0.33	1.03	93,471.29	21,189.11	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
85	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	177.12	60.45	OK !	0.65	1.23	78,724.32	494.12	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
86	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	177.12	60.45	OK !	0.65	1.23	78,724.32	4,296.69	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
87	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	177.12	60.45	OK !	0.65	1.23	78,724.32	3,868.41	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
88	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	285.69	98.98	OK !	0.98	1.51	83,977.39	41,808.38	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
89	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	285.69	98.98	OK !	0.98	1.51	83,977.39	37,407.43	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
90	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	285.69	98.98	OK !	0.98	1.51	83,977.39	4,311.58	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
91	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	82.03	28.00	OK !	0.30	1.02	94,559.58	1,458.91	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
92	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	82.03	28.00	OK !	0.30	1.02	94,559.58	17,212.73	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
93	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	82.03	28.00	OK !	0.30	1.02	94,559.58	14,940.75	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
94	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	164.05	55.99	OK !	0.60	1.19	90,999.99	448.17	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
95	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	164.05	55.99	OK !	0.60	1.19	90,999.99	4,234.40	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
96	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	164.05	55.99	OK !	0.60	1.19	90,999.99	3,799.71	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
97	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	246.08	83.99	OK !	0.90	1.44	87,242.40	39,452.70	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
98	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	246.08	83.99	OK !	0.90	1.44	87,242.40	34,196.40	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
99	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	246.08	83.99	OK !	0.90	1.44	87,242.40	4,467.27	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
100	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	75.48	25.78	OK !	0.28	1.01	95,662.62	2,967.45	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
101	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	75.48	25.78	OK !	0.28	1.01	95,662.62	15,194.81	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
102	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	75.48	25.78	OK !	0.28	1.01	95,662.62	18,491.26	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
103	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	150.28	51.33	OK !	0.55	1.16	83,977.88	299.13	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
104	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	150.28	51.33	OK !	0.55	1.16	83,977.88	4,233.54	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
105	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	150.28	51.33	OK !	0.55	1.16	83,977.88	2,663.11	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
106	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	228.47	77.29	OK !	0.83	1.37	79,567.40	35,736.09	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
107	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	228.47	77.29	OK !	0.83	1.37	79,567.40	29,934.25	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
108	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	228.47	77.29	OK !	0.83	1.37	79,567.40	15,468.70	OK !	99,720.00	87,048.00	OK !	36.27	134,199.00
109	L 120.120.11	25.40	120.00	11.00	10.61	12.91	OK !	3.66	4.82	2.35	2.35	68.85	29.34	OK !	0.52	1.03	58,184.15	2,874.54	OK !	69,960.00	54,864.00	OK !	22.86	84,582.00
110	L 120.120.11	25.40	120.00	11.00	10.61	12.91	OK !	3.66	4.82	2.35	2.35	68.85	29.34	OK !	0.52	1.03	58,184.15	13,266.77	OK !	69,960.00	54,864.00	OK !	22.86	84,582.00
111	L 120.120.11	25.40	120.00	11.00	10.61	12.91	OK !	3.66	4.82	2.35	2.35	68.85	29.34	OK !	0.52	1.03	58,184.15	15,478.49	OK !	69,960.00	54,864.00	OK !	22.86	84,582.00
112	L 120.120.11	25.40	120.00	11.00	10.61	12.91	OK !	3.66	4.82	2.35	2.35	157.91	58.68	OK !	0.83	1.22	58,181.31	1,248.74	OK !	69,960.00	54,864.00	OK !	22.86	84,582.00
113	L 120.120.11	25.40	120.00	11.00	10.61	12.91	OK !	3.66	4.82	2.35	2.35	157.91	58.68	OK !	0.83	1.22	58,181.31	3,195.55	OK !	69,960.00	54,864.00	OK !	22.86	84,582.00
114	L 120.120.11	25.40	120.00	11.00	10.61	12.91	OK !	3.66	4.82	2.35	2.35	157.91	58.68	OK !	0.83	1.22	58,181.31	2,253.12	OK !	69,960.00	54,864.00	OK !	22.86	84,582.00

fy = 2,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

λr = 210 / √fy = 12.91 (baltang siku/plat)

λr = 22000 / √fy = 1,420.59 (baltang bulat)

No. Frame	Profil	A (cm²)	h (mm)	t (mm)	Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Lentur			Kontrol Kuat Tarik			
					b/t	λr	b/t < λr																		
115	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
116	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
117	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
118	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
119	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
120	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
121	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
122	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
123	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
124	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
125	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
126	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
127	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
128	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
129	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
130	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
131	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
132	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
133	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
134	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
135	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
136	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
137	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
138	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
139	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
140	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
141	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
142	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
143	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
144	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !																		
145	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
146	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
147	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
148	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
149	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
150	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
151	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
152	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
153	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
154	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
155	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
156	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
157	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
158	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
159	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
160	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
161	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
162	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
163	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
164	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
165	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !																		
166	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !																		
167	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !																		
168	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !																		
169	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !																		
170	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !																		
171	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !																		

No. Frame	Profil	A	b	t	Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Kuat Tarik			Kontrol Kuat Tekan		
																				Kontrol Leleh			Kontrol Putus		
		cm ²	cm	cm	bf	εf	bf < εf	λr = h/tw	λp = 1680/√fy	λr = 2550/√fy	λ = Lk/i min	λc = λ/π√(fy/E)	ω	ω²	Nn = Ag.fy	Nn = 0.9.An.fu	Nn = Nn	Ag = 90%.Ag	Pn = Ag.fy	ØPn = 0.75.Pn	Ag = 85%.Ag	Pn = Ag.fy	ØPn = 0.75.Pn
172	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	43.14	24.51	OK !	0.29	1.10	37.623.12	451.08	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
173	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	43.14	24.51	OK !	0.29	1.10	37.623.12	1.875.60	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
174	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	43.14	24.51	OK !	0.29	1.10	37.623.12	729.48	OK !	37.200.00	33.480.00	OK !	13.9...	51.615.00	38.711.25
175	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	66.27	49.92	OK !	0.53	1.19	32.423.88	2.361.09	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
176	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	66.27	49.92	OK !	0.53	1.19	32.423.88	43.88	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
177	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	66.27	49.92	OK !	0.53	1.19	32.423.88	2.672.10	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
178	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	33.33	18.94	OK !	0.20	1.07	37.200.00	378.12	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
179	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	33.33	18.94	OK !	0.20	1.07	37.200.00	538.37	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
180	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	33.33	18.94	OK !	0.20	1.07	37.200.00	1.938.74	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
181	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	66.67	37.88	OK !	0.41	1.08	34.514.43	1.217.47	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
182	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	66.67	37.88	OK !	0.41	1.08	34.514.43	1.178.95	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
183	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	66.67	37.88	OK !	0.41	1.08	34.514.43	1.424.47	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
184	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	64.957.80	OK !	86.367.15	85.503.48	OK !	32.39	119.834.42	89.875.81
185	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	80.634.83	OK !	86.367.15	83.776.13	OK !	32.39	119.834.42	89.875.81
186	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	91.794.29	OK !	86.367.15	83.776.13	OK !	32.39	119.834.42	89.875.81
187	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	75.572.98	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
188	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	78.048.58	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
189	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	78.013.55	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
190	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	73.356.36	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
191	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	84.957.73	OK !	86.367.15	85.503.48	OK !	32.39	119.834.42	89.875.81
192	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	80.934.75	OK !	86.367.15	83.776.13	OK !	32.39	119.834.42	89.875.81
193	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	81.794.22	OK !	86.367.15	83.776.13	OK !	32.39	119.834.42	89.875.81
194	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	75.572.98	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
195	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	78.048.58	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
196	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	78.013.57	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
197	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	73.365.48	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
198	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	78.075.48	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
199	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	71.037.18	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
200	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	70.824.44	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
201	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	80.099.71	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
202	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	99.042.21	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
203	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	85.998.67	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
204	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	99.701.94	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
205	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	73.856.58	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
206	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	73.848.71	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
207	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	71.309.91	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
208	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	71.991.53	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
209	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	71.842.58	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
210	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	69.105.59	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
211	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	69.129.81	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
212	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	73.856.81	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
213	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	73.848.62	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
214	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	71.316.00	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
215	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	71.941.82	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
216	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	71.912.1...	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
217	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	69.105.86	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
218	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	69.129.86	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
219	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	81.999.65	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
220	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	81.843.56	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
221	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	56.881.20	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
222	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	58.285.14	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
223	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	58.275.23	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
224	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	57.382.92	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
225	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	53.491.59	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
226	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1.420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	86.367.15	69.745.32	OK !	86.367.15	77.730.43	OK !	32.39	119.834.42	89.875.81
227	SC 219.1 x 8.35	42.47	219.10	8.35	34.50	1.420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101.808.53	84.042.33	OK !	101.808.53	91.627.68	OK !	36.98	141.259.34	105.944.51
228	SC 219.1 x 8.35	42.47	219.10	8.35	34.50	1.420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101.808.53	84.231.09	OK !	101.808.53	91.627.68	OK !	36.98	141.259.34	105.944.51

No. Frame	Profil	A (cm²)	h (mm)	t (mm)	Kontrol Kuat Tekan														Kontrol Kuat Tarik					
					Kontrol Pelat Sayap			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Patah		
229	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,240.49	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
230	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,818.90	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
231	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,314.48	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
232	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,529.86	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
233	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	99,367.15	77,730.43	OK !	99,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
234	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,060.40	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
235	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,257.17	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
236	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,291.09	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
237	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,818.90	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
238	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	85,514.36	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
239	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	85,109.93	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
240	SC 168.3 x 7.11	35.99	168.30	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.76	OK !	0.02	1.00	99,367.15	77,730.43	OK !	99,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
241	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,314.52	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
242	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,869.07	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
243	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,450.19	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
244	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	83,237.34	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
245	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,864.85	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
246	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	82,562.80	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
247	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	82,499.34	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
248	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	82,923.49	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
249	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,000.32	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
250	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,340.83	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
251	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,294.94	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
252	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	77,115.19	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
253	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	82,649.45	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
254	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	82,523.57	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
255	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,000.38	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
256	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,340.85	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
257	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,294.89	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
258	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,181.52	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
259	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	77,115.21	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
260	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	83,978.73	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
261	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	83,821.37	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
262	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	82,727.43	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
263	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,987.44	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
264	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	85,228.31	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
265	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,965.54	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
266	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	82,891.27	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
267	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	77,389.57	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
268	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	73,308.50	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
269	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	73,225.34	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
270	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	82,898.43	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
271	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,482.82	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
272	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	83,387.81	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
273	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,353.57	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
274	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	71,389.78	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
275	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	73,394.48	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
276	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	73,225.34	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
277	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	82,898.43	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
278	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	80,434.85	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
279	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	80,543.88	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
280	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	80,525.10	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
281	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,459.54	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
282	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	83,241.80	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
283	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,399.99	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
284	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,448.22	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51
285	SC 219.1 x 6.35	42.42	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	81,391.38	OK !	101,808.53	91,627.68	OK !	38.19	141,259.34	105,944.51

E = 2.100.000,00 kg/cm2

No. Frame	Profil	A	b	t	Kontrol Penampang			Kontrol Kelangsungan						Kontrol Kapasitas Profil					Kontrol Lentur			Kontrol Tarik	
286	SC 219.7 x 6.35	42.40	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	25,105.49	OK !	101,808.53	81,627.66	OK !	38.18	141,259.34	105,944.51
287	SC 219.1 x 6.35	42.40	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	25,105.74	OK !	101,808.53	81,627.66	OK !	38.18	141,259.34	105,944.51
288	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	256.32	1.39	OK !	0.01	1.00	184,238.40	142,464.57	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
289	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	143,281.79	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
290	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	145,579.57	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
291	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	256.32	1.39	OK !	0.01	1.00	184,238.40	145,506.35	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
292	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	256.32	1.39	OK !	0.01	1.00	184,238.40	133,588.46	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
293	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	137,365.29	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
294	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	139,900.12	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
295	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	142,295.23	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
296	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	145,498.26	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
297	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	145,365.22	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
298	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	133,611.04	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
299	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	137,371.36	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
300	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	95,355.51	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
301	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	102,646.01	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
302	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	109,990.04	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
303	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	108,825.93	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
304	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	85,280.90	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
305	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	80,710.97	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
306	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	139,640.49	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
307	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	139,601.86	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
308	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	127,368.79	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
309	SC 219.1 x 6.35	42.40	219.10	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,181.62	OK !	101,808.53	81,627.66	OK !	38.18	141,259.34	105,944.51
310	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	131,196.29	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
311	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	133,532.56	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
312	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	139,643.89	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
313	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	139,605.02	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
314	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	127,369.03	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
315	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	131,180.56	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
316	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	256.32	1.39	OK !	0.01	1.00	184,238.40	133,532.94	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
317	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	95,281.56	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
318	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	95,194.94	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
319	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	70,724.80	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
320	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	76,336.56	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
321	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	82,991.80	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
322	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	82,914.60	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
323	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	133,539.81	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
324	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	121,069.78	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
325	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	124,977.17	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
326	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	127,673.24	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
327	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	127,735.31	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
328	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	133,529.20	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
329	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	121,069.54	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
330	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	124,973.51	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
331	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	127,674.10	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
332	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	124,709.24	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
333	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	58,927.96	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
334	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	65,855.10	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
335	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	71,183.60	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
336	SC 273.0 x 9.27	78.77	273.00	9.27	29.45	1,420.09	OK !	184.80	184.80	184.80	184.80	200.32	1.08	OK !	0.01	1.00	184,238.40	71,288.50	OK !	184,238.40	165,814.56	OK !	69.09	255,630.78	191,723.09
337	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,254.98	2,223.23	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
338	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,254.98	2,223.23	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
339	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,254.98	115.68	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
340	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,254.98	1,854.11	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
341	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,254.98	1,854.11	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
342	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,254.98	115.68	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25

fc = 3,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

R = 20 / √fc = 12.91 (Batang Struktur)

R = 12000 / √fc = 197.29 (Batang Bukit)

No. Frame	Profil	A	b	t	Kontrol Pelat Tekan										Kontrol Kuat Tarik						
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Lelah			Kontrol Pacan			
		(cm²)	(mm)	(mm)	bf/t	10/t	bf/t < 10/t	Lx = Ly	ix (cm)	iy (cm)	Lmax / imin	CK < Cm	λ = Lk/i max	λ < 200	Ix	Iy	φPn	Pu	φPn > Pu	Pu = Ag.Fy	φPn = 0.9 Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0.75 Pn	φ
343	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,917.65	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
344	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,917.65	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
345	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	287.47	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
346	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,950.45	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
347	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,950.45	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
348	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	287.47	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
349	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	1,612.51	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
350	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,942.45	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
351	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,942.45	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
352	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,672.51	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
353	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	120.26	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
354	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	120.26	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
355	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,738.51	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
356	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,468.92	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
357	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,468.92	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
358	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	2,738.51	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
359	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	206.05	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
360	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	206.05	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
361	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,384.18	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
362	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,384.18	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
363	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	282.88	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
364	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,655.82	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
365	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,655.82	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
366	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	282.88	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
367	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,451.70	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
368	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,451.70	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
369	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	415.51	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
370	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,050.49	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
371	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,050.49	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
372	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	410.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
373	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,479.80	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
374	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,202.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
375	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,297.57	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
376	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,475.82	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
377	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	297.50	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
378	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	297.50	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
379	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,869.00	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
380	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	3,869.00	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
381	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,271.92	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
382	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	415.15	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
383	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	415.15	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
384	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,271.92	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
385	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,708.00	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
386	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,707.99	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
387	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	552.31	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
388	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	5,250.89	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
389	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	5,250.89	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
390	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	552.31	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
391	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	8,059.48	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
392	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	8,059.48	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
393	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	716.54	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
394	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	5,351.96	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
395	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	5,351.96	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
396	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	716.55	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
397	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	5,011.21	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
398	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,528.85	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
399	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	1.76	1.76	125.00	71.02	OK !	0.78	1.31	28,294.98	4,528.85	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	

E = [illegible] kg/cm2

fy = [illegible] kg/cm2

h = [illegible] = [illegible] (batang siku-siku)

x = [illegible] = [illegible] (batang siku)

No. Frame	Profil	A	b	t	Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus Tarik		
		(cm2)	(mm)	(mm)																					
406	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
407	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
408	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
409	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
410	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
411	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
412	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
413	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
414	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
415	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
416	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
417	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
418	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
419	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
420	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
421	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
422	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
423	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
424	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
425	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
426	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
427	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
428	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
429	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
430	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
431	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
432	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
433	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
434	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
435	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
436	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
437	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
438	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
439	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
440	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
441	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
442	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
443	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
444	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
445	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
446	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
447	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
448	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
449	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
450	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
451	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
452	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
453	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
454	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
455	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
456	L 90.90.9	15.50	90.00	9.00	[illegible]	12.81	OK !	[illegible]	[illegible]	[illegible]	1.79	125.00	[illegible]	OK !	0.76	1.31	28,294.98	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan															Kontrol Kuat Tarik				
					Kontrol Penampang			Kontrol Kelangsingan						Kons...i Kapasitas Profil						Kontrol Leleh			Kontrol Putus		
		(cm²)	(mm)	(mm)	bf/	cf	bf/ < cf																	
451	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	8,432.80	OK !	37,200.00	33,480.00	OK !	13.95	57,675.00	38,711.25
452	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	8,432.80	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
453	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	7,954.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
454	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	10,144.07	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
455	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	10,143.94	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
456	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	7,954.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
457	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	11,401.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
458	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
459	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	8,532.00	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
460	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	8,531.98	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
461	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
462	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
463	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
464	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
465	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
466	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
467	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
468	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
469	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
470	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
471	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
472	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
473	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
474	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
475	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
476	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
477	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
478	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
479	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
480	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.00	71.02	OK !	0.78	1.31	28,294.98	3,343.28	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
481	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	348.46	118.93	OK !	1.28	2.05	47,195.65	921.23	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
482	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	348.46	118.93	OK !	1.28	2.05	47,195.65	87.48	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
483	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	348.46	118.93	OK !	1.28	2.05	47,195.65	36,560.91	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
484	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	348.46	118.93	OK !	1.28	2.05	47,195.65	36,207.81	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
485	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	348.46	118.93	OK !	1.28	2.05	47,195.65	36,207.15	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
486	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	348.46	118.93	OK !	1.28	2.05	47,195.65	36,191.31	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
487	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	285.29	97.37	OK !	1.05	1.56	60,712.39	44,404.25	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
488	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	285.29	97.37	OK !	1.05	1.56	60,712.39	5,148.71	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
489	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	285.29	97.37	OK !	1.05	1.56	60,712.39	37,354.83	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
490	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	190.20	64.91	OK !	0.70	1.04	39,547.65	6,852.38	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
491	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	190.20	64.91	OK !	0.70	1.04	39,547.65	1,432.17	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
492	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	95.10	32.46	OK !	0.35	1.05	82,382.92	4,197.12	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
493	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	95.10	32.46	OK !	0.35	1.05	82,382.92	28,650.91	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
494	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	95.10	32.46	OK !	0.35	1.05	82,382.92	24,724.29	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
495	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	190.20	64.91	OK !	0.70	1.04	39,547.65	5,435.29	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
496	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	95.10	54.03	OK !	0.58	1.18	31,483.10	309.03	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
497	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72,000.80	32,957.61	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
498	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72,000.80	2,073.55	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
499	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	190.20	108.07	OK !	1.16	1.74	21,343.82	172.08	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
500	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	289.28	91.94	OK !	0.99	1.53	63,359.92	501.90	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
501	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	289.28	91.94	OK !	0.99	1.53	63,359.92	6,617.20	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
502	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	285.29	162.10	OK !	1.75	3.81	9,771.82	98.42	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
504	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	95.10	54.03	OK !	0.58	1.18	31,483.10	312.40	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
505	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72,000.80	2,073.25	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
506	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72,000.80	32,960.65	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
507	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	190.20	108.07	OK !	1.16	1.74	21,343.82	172.08	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
508	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	289.28	91.94	OK !	0.99	1.53	63,359.92	501.90	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
509	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	289.28	91.94	OK !	0.99	1.53	63,359.92	6,596.93	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
510	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	285.29	162.10	OK !	1.75	3.81	9,771.82	120.38	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
511	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	95.10	54.03	OK !	0.58	1.18	31,483.10	401.62	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
512	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72,000.80	30,260.89	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
513	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72,000.80	30,260.89	OK !	86,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
514	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	190.20	108.07	OK !	1.16	1.74	21,343.82	344.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25

| | | |

fy = 3,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

n = 12.91 (batang sirku-sirku)

n = 1,428.19 (batang bulat)

No. Frame	Profil	A	b	i	Kontrol Kuat Tekan														Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kekuatan Profil					Kontrol Leleh			Kontrol Putus		
		Type	mm	mm	bf/	t/	bf/ < fy	kL < rg	L < cm	cm < cm	cm < cm	LK < cm	< Lkol	L < 200	Nn	Mn	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0.9 Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0.75 Pn
570	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	344.93	114.98	OK !	1.24	1.91	50,902.34	31,470.74	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
571	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	336.53	114.88	OK !	1.24	1.91	50,902.34	41,563.27	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
572	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.74	1.29	74,891.82	25,114.45	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
573	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.74	1.29	74,891.82	34,199.99	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
574	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	344.93	114.98	OK !	1.24	1.91	50,902.34	44,851.48	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
575	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	336.53	114.88	OK !	1.24	1.91	50,902.34	44,851.75	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
576	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.74	1.29	74,891.82	34,199.99	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
577	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.74	1.29	74,891.82	25,114.45	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
578	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.74	1.29	74,891.82	34,199.99	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
579	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	344.93	114.98	OK !	1.24	1.91	50,902.34	44,851.48	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
580	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	336.53	114.88	OK !	1.24	1.91	50,902.34	44,851.75	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
581	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.74	1.29	74,891.82	34,199.99	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
582	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.74	1.29	74,891.82	25,114.47	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
583	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	336.53	114.88	OK !	1.24	1.91	50,902.34	41,563.27	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
584	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	336.53	114.88	OK !	1.24	1.91	50,902.34	13,117.42	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
585	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.74	1.29	74,891.82	3,060.84	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
586	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	50,698.87	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
587	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	50,575.43	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
588	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	50,542.53	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
589	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	35,699.24	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
590	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	38,705.41	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
591	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	50,541.81	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
592	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	50,327.56	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
593	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	50,673.00	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
594	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	14,061.29	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
595	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	2,121.29	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
596	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	2,124.15	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
597	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	14,061.74	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
598	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	88.56	50.32	OK !	0.54	1.18	37,179.68	288.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
599	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	177.12	100.64	OK !	1.08	1.64	22,737.54	204.00	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
600	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	265.69	150.96	OK !	1.63	2.30	11,288.48	104.37	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
601	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	271.83	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
602	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	617.17	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
603	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	349.93	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
604	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	404.54	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
605	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	848.53	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
606	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	404.56	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
607	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	617.23	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
608	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	271.87	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
609	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	280.78	89.00	OK !	0.95	1.65	94,783.64	588.93	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
610	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	265.69	148.17	OK !	1.60	3.38	11,865.99	2,522.05	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
611	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	265.69	148.17	OK !	1.60	3.38	11,865.99	2,522.32	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
612	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	265.69	148.17	OK !	1.60	3.38	11,865.99	2,252.32	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
613	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	265.69	148.17	OK !	1.60	3.38	11,865.99	288.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
614	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	265.69	148.17	OK !	1.60	3.38	11,865.99	267.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
615	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	265.69	148.17	OK !	1.60	3.38	11,865.99	2,251.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
616	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	334.51	114.17	OK !	1.23	1.89	51,213.01	1,870.80	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
617	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	334.51	114.17	OK !	1.23	1.89	51,213.01	1,870.92	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
618	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	334.51	114.17	OK !	1.23	1.89	51,213.01	1,872.53	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
619	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	334.51	114.17	OK !	1.23	1.89	51,213.01	1,872.54	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
620	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	334.51	114.17	OK !	1.23	1.89	51,213.01	32,453.31	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
621	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	334.51	114.17	OK !	1.23	1.89	51,213.01	32,985.95	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
622	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	88.56	50.32	OK !	0.54	1.18	37,179.68	570.99	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
623	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	177.12	100.64	OK !	1.08	1.64	22,737.54	408.15	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
624	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	265.69	150.96	OK !	1.63	2.30	11,288.48	121.87	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
625	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	88.56	50.32	OK !	0.54	1.18	37,179.68	288.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
626	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	177.12	100.64	OK !	1.08	1.64	22,737.54	203.99	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
627	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	265.69	150.96	OK !	1.63	2.30	11,288.48	104.42	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
628	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	222.95	76.09	OK !	0.82	1.58	71,050.18	61,482.23	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
629	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	221.95	76.09	OK !	0.82	1.58	71,050.18	61,017.88	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
630	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	222.95	76.09	OK !	0.82	1.58	71,050.18	61,073.80	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
631	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.55	5.74	2.93	2.93	222.95	76.09	OK !	0.82	1.58	71,050.18	60,137.93	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan														Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
		(cm²)	(mm)	(mm)	bf/	tf	bf/ < lp	lx = lk / rx	ly = lk / ry	λc	λc < 200								Pn = Ag.Fy	φPn = 0.9.Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0.75 Pn
632	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
633	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
634	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
635	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
636	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
637	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
638	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
639	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
640	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
641	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
642	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
643	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
644	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
645	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	222.95	76.29	OK !	0.82	1.38	71.691.18	64.522.07	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
646	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
647	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.29	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
648	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.29	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
649	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.29	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
650	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.29	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
651	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.29	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
652	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.29	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
653	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
654	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
655	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
656	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
657	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
658	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
659	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
660	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
661	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
662	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
663	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
664	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
665	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
666	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
667	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
668	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
669	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
670	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
671	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
672	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
673	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
674	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
675	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
676	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
677	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
678	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	225.91	77.32	OK !	0.83	1.37	70.600.33	63.540.30	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
679	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	82.03	46.61	OK !	0.50	1.13	32.876.82	29.589.14	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
680	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	164.05	93.21	OK !	1.00	1.54	24.131.25	21.718.13	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
681	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	246.08	139.82	OK !	1.51	2.83	13.153.44	11.838.10	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
682	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	260.14	98.31	OK !	0.74	1.28	74.881.82	67.393.64	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
683	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.97	109.55	OK !	1.18	1.77	54.771.43	49.294.29	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
684	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.97	109.55	OK !	1.18	1.77	54.771.43	49.294.29	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
685	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	260.14	98.31	OK !	0.74	1.28	74.881.82	67.393.64	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25
686	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	82.03	46.61	OK !	0.50	1.13	32.876.82	29.589.14	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
687	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	164.05	93.21	OK !	1.00	1.54	24.131.25	21.718.13	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
688	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.76	1.76	246.08	139.82	OK !	1.51	2.83	13.153.44	11.838.10	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25

No. Frame	Profil	Kontrol Kuat Tarik																						
		Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Fraktur		
639	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.14	68.31	OK !	0.74	1.29	74.891.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
640	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.14	68.31	OK !	0.74	1.29	74.891.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
641	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.14	68.31	OK !	0.74	1.29	74.891.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
642	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.14	68.31	OK !	0.74	1.29	74.891.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
643	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	165.18	82.59	OK !	0.60	1.13	52.678.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
644	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	165.18	82.59	OK !	0.60	1.13	52.678.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
645	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	165.18	82.59	OK !	0.60	1.13	52.678.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
646	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.14	68.31	OK !	0.74	1.29	74.891.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
647	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.14	68.31	OK !	0.74	1.29	74.891.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
648	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.14	68.31	OK !	0.74	1.29	74.891.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
649	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.14	68.31	OK !	0.74	1.29	74.891.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
650	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
651	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
652	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
653	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
654	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
655	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
656	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
657	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
658	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
659	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
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661	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
662	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
663	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
664	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
665	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
666	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
667	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
668	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
669	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
670	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
671	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
672	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
673	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
674	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
675	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
676	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
677	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
678	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
679	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
680	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
681	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
682	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
683	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
684	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
685	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
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689	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
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698	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
699	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
700	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
701	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
702	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
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709	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
710	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
711	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
712	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
713	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
714	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
715	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
716	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
717	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	220.15	75.14	OK !	0.81	1.35	71.560.34	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
718	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
719	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
720	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
721	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
722	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
723	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
724	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
725	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
726	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
727	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
728	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
729	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
730	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
731	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
732	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
733	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
734	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
735	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
736	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
737	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
738	L 150.150.15	40.30	150.00	5.00	10.00	12.91	OK !	4.56	5.74	2.93	2.93	241.18	82.31	OK !	0.89	1.42	68.058.64	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
739	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	165.18	82.59	OK !	0.60	1.13	52.678.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
740	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	165.18	82.59	OK !	0.60	1.13	52.678.82	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
741	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75

fy = 2.700.00 kg/cm2

E = 2.000.000.00 kg/cm2

$r_x = \frac{200}{\sqrt{6}}$ = 12.91 (Jabang siku-siku)

$r_y = \frac{22500}{\sqrt{3}}$ = 1.426.05 (Jabang tusuk)

No. Frame	Profil	A	b	h	Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Aksial Tarik					
																			Kontrol Leleh			Kontrol Putus		
		(cm²)	(mm)	(mm)	bf/	ef	bf/ < ef																	
140	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	339.53	198.66	OK !	1.12	0.79	76,997.80	55,230.99	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
141	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	339.53	198.66	OK !	1.12	0.79	55,997.80	40,163.56	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
142	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	339.53	198.66	OK !	1.12	0.79	55,997.80	40,163.56	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
143	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	339.53	198.66	OK !	1.12	0.79	55,997.80	40,163.56	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
144	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	339.53	198.66	OK !	1.12	0.79	55,997.80	40,163.56	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
145	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
146	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.80	57,898.37	41,298.45	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
147	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
148	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
149	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
150	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
151	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
152	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
153	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
154	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
155	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
156	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	302.59	183.14	OK !	1.11	0.81	57,898.37	41,517.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
157	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	226.47	77.26	OK !	2.80	1.27	70,507.40	34,354.15	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
158	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	150.98	51.53	OK !	0.85	1.19	83,077.56	2,479.30	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
159	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	75.49	25.76	OK !	0.28	1.01	85,647.92	17,206.74	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
160	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	75.49	25.76	OK !	0.28	1.01	85,647.92	17,206.74	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
161	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	150.96	51.53	OK !	0.85	1.19	83,077.56	2,507.89	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
162	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	226.47	77.26	OK !	0.83	1.37	70,507.40	1,848.70	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
163	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	150.98	51.53	OK !	0.55	1.19	83,077.56	418.25	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
164	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	75.49	25.76	OK !	0.28	1.01	85,647.92	17,206.74	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
165	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	226.47	77.26	OK !	0.83	1.37	70,507.40	1,848.70	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
166	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.48	1.78	1.78	75.49	42.86	OK !	0.48	1.11	33,573.87	294.56	OK !	97,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
167	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.48	1.78	1.78	150.98	85.78	OK !	0.92	1.48	25,524.97	235.31	OK !	97,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
168	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.48	1.78	1.78	226.47	128.68	OK !	1.38	2.40	15,505.08	137.90	OK !	97,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
169	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	200.14	68.31	OK !	0.74	1.28	74,891.82	9,277.28	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
170	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	200.14	68.31	OK !	0.74	1.28	74,891.82	23,202.22	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
171	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	305.88	104.40	OK !	1.12	1.89	57,283.79	10,456.45	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
172	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	305.88	104.40	OK !	1.12	1.96	57,283.79	24,997.23	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
173	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	303.89	103.75	OK !	1.12	1.88	57,600.01	7,425.15	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
174	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	303.89	103.75	OK !	1.12	1.88	57,600.01	7,425.15	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
175	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.48	1.78	1.78	75.49	42.86	OK !	0.48	1.11	33,573.87	294.56	OK !	97,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
176	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.48	1.78	1.78	150.98	85.78	OK !	0.92	1.48	25,524.97	235.31	OK !	97,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
177	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.48	1.78	1.78	226.47	128.68	OK !	1.38	2.40	15,505.08	137.90	OK !	97,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
178	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	294.92	100.65	OK !	1.08	1.84	58,128.92	11,202.24	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
179	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	294.92	100.65	OK !	1.08	1.84	58,128.92	11,202.24	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
180	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	303.89	103.75	OK !	1.12	1.88	57,600.01	7,477.92	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
181	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	303.89	103.75	OK !	1.12	1.88	57,600.01	7,494.76	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
182	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	200.14	68.31	OK !	0.74	1.28	74,891.82	18.44	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
183	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	200.14	68.31	OK !	0.74	1.28	74,891.82	474.89	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
184	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	200.14	68.31	OK !	0.74	1.28	74,891.82	32,278.22	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
185	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	305.88	104.40	OK !	1.12	1.83	57,283.79	43,138.48	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
186	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	305.88	104.40	OK !	1.12	1.83	57,283.79	48,247.59	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
187	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	200.14	68.31	OK !	0.74	1.28	74,891.82	32,307.95	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
188	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.48	1.78	1.78	226.47	128.68	OK !	1.38	2.40	15,505.08	188.41	OK !	97,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
189	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.48	1.78	1.78	150.98	85.78	OK !	0.92	1.48	25,524.97	188.38	OK !	97,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
190	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.48	1.78	1.78	75.49	42.86	OK !	0.48	1.11	33,573.87	294.56	OK !	97,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
191	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	65,215.14	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
192	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	65,573.67	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
193	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	65,455.10	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
194	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	65,209.11	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
195	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	65,427.97	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
196	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	59,482.36	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
197	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	8,968.71	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
198	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	10,388.96	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
199	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	38,438.71	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
200	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	63,266.58	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
201	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	65,583.21	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25
202	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.56	5.74	2.82	2.82	237.50	74.23	OK !	0.80	1.34	72,000.80	65,730.48	OK !	96,720.00	87,048.00	OK !	38.27	134,199.00	100,649.25

f_y = 2.100.00 kg/cm2

E = 2.100.000,00 kg/cm2

$\frac{250}{\sqrt{f_y}}$ = 131 (Kolom/Balok)

$\frac{12000}{f_y}$ = 5.42E-09 (Kolom/Balok)

No. Frame	Profil	A	d	r	Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Tekuk Torsi		
		(cm²)	(mm)	(mm)																				
924	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72.200.00	61.661.46	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
925	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72.200.00	61.487.41	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
926	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72.200.00	16.212.32	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
927	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72.200.00	53.188.74	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
928	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72.200.00	61.487.91	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
929	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	217.50	74.23	OK !	0.80	1.34	72.200.00	61.671.70	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
930	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	2.187.84	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
931	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	2.331.77	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
932	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	3.411.24	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
933	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	12.424.14	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
934	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	41.057.80	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
935	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	66.330.99	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
936	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	61.679.38	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
937	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	26.785.86	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
938	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	28.994.94	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
939	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	63.948.84	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
940	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	68.249.91	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
941	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	64.905.88	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
942	L 90.90.9	15.50	90.00	9.00	10.00	10.09	OK !	2.74	3.46	1.76	1.76	221.57	125.89	OK !	1.38	2.50	16.199.78	282.80	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
943	L 90.90.9	15.50	90.00	9.00	10.00	10.09	OK !	2.74	3.46	1.76	1.76	221.57	125.89	OK !	1.38	2.50	16.199.78	2.724.53	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
944	L 90.90.9	15.50	90.00	9.00	10.00	10.09	OK !	2.74	3.46	1.76	1.76	221.57	125.89	OK !	1.38	2.50	16.199.78	3.027.38	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
945	L 90.90.9	15.50	90.00	9.00	10.00	10.09	OK !	2.74	3.46	1.76	1.76	221.57	125.89	OK !	1.38	2.50	16.199.78	2.737.17	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
946	L 90.90.9	15.50	90.00	9.00	10.00	10.09	OK !	2.74	3.46	1.76	1.76	221.57	125.89	OK !	1.38	2.50	16.199.78	280.95	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
947	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	364.54	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
948	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	1.121.19	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
949	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	144.28	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
950	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	173.81	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
951	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	368.08	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
952	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	1.151.64	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
953	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	135.21	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
954	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	303.99	103.75	OK !	1.12	1.88	57.809.01	39.387.53	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
955	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	303.99	103.75	OK !	1.12	1.88	57.809.01	39.933.08	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
956	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	444.21	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
957	L 150.150.15	40.30	150.00	15.00	10.00	12.91	OK !	4.64	5.74	2.93	2.93	221.57	75.62	OK !	0.81	1.38	71.323.65	428.78	OK !	96.720.00	87.048.00	OK !	38.27	134.199.00	100.649.25
958	L 90.90.9	15.50	90.00	9.00	10.00	10.09	OK !	2.74	3.46	1.76	1.76	221.57	125.89	OK !	1.38	2.50	16.199.78	3.625.93	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
959	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	287.79	122.46	OK !	1.32	2.17	28.053.08	19.702.81	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
960	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	287.79	122.46	OK !	1.32	2.17	28.053.08	19.748.86	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
961	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	287.79	122.46	OK !	1.32	2.17	28.053.08	49.49	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
962	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	287.79	122.46	OK !	1.32	2.17	28.053.08	243.16	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
963	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	287.79	122.46	OK !	1.32	2.17	28.053.08	15.712.40	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
964	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	287.79	122.46	OK !	1.32	2.17	28.053.08	19.940.33	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
965	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	206.86	88.03	OK !	0.95	1.48	41.138.48	29.056.42	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
966	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	137.91	58.68	OK !	0.63	1.22	36.184.31	1.462.83	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
967	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	68.95	29.34	OK !	0.32	1.03	16.184.15	2.592.27	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
968	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	68.95	29.34	OK !	0.32	1.03	16.184.15	61.407.29	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
969	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	137.91	58.68	OK !	0.63	1.22	36.184.31	2.138.75	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
970	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	206.86	88.03	OK !	0.95	1.48	41.138.48	3.219.48	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
971	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	206.86	88.03	OK !	0.95	1.48	41.138.48	25.960.35	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
972	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	137.91	58.68	OK !	0.63	1.22	36.184.31	3.261.42	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
973	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	68.95	29.34	OK !	0.32	1.03	16.184.15	57.496.40	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
974	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	215.02	91.50	OK !	0.99	1.52	40.070.69	29.947.28	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
975	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	215.02	91.50	OK !	0.99	1.52	40.070.69	30.116.83	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
976	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	215.02	91.50	OK !	0.99	1.52	40.070.69	30.497.95	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
977	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	215.02	91.50	OK !	0.99	1.52	40.070.69	28.071.31	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
978	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	215.02	91.50	OK !	0.99	1.52	40.070.69	30.117.70	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
979	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	215.02	91.50	OK !	0.99	1.52	40.070.69	30.481.11	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
980	L 120.120.11	25.40	120.00	11.00	10.00	12.91	OK !	3.66	4.62	2.35	2.35	215.02	91.50	OK !	0.99	1.52	40.070.69	31.210.41	OK !	80.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50

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No. Frame	Profil	A	b	t	Kontrol Kuat Desain																											
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil										Kontrol Lentur				Kontrol Aksial Tarik			
		(cm²)	(mm)	(mm)																												
976	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	364.71	755.79	OK !	1.67	1.49	61.448.31	1.037.90	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
977	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	364.71	755.79	OK !	1.67	1.49	61.448.31	3.562.15	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
978	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	364.71	755.79	OK !	1.67	1.49	61.448.31	3.562.15	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
979	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	32.191.52	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
980	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	3.395.24	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
981	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	30.590.26	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
982	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	8.842.48	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
983	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	8.853.48	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
984	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	31.517.82	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
985	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	31.315.47	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
986	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	29.377.29	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
987	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	29.368.13	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
988	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	31.911.53	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
989	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	31.518.41	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
990	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	32.089.80	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
991	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	32.143.39	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
992	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	31.402.53	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
993	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	30.624.25	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
994	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	8.880.90	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
995	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	242.72	90.52	OK !	2.67	1.51	40.372.58	8.844.92	OK !	60.460.00	54.864.00	OK !	22.86	84.582.00	63.436.50							
996	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	215.02	73.39	OK !	0.79	1.34	72.413.59	340.91	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
997	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	215.02	73.39	OK !	0.79	1.34	72.413.59	26.088.54	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
998	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	280.82	89.02	OK !	0.98	1.48	84.787.37	1.397.88	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
999	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	280.82	89.02	OK !	0.98	1.48	84.787.37	4.017.91	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1000	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	280.82	89.02	OK !	0.98	1.48	84.787.37	1.397.27	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1001	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	280.82	89.02	OK !	0.98	1.48	84.787.37	4.015.22	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1002	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	215.02	73.39	OK !	0.79	1.34	72.413.59	340.91	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1003	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	215.02	73.39	OK !	0.79	1.34	72.413.59	26.087.23	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1004	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	215.02	73.39	OK !	0.79	1.34	72.413.59	26.023.71	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1005	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	215.02	73.39	OK !	0.79	1.34	72.413.59	26.023.99	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1006	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	280.82	89.02	OK !	0.98	1.48	84.787.37	5.370.23	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1007	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	280.82	89.02	OK !	0.98	1.48	84.787.37	5.370.19	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1008	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	242.72	72.60	OK !	0.79	1.33	72.767.74	26.148.11	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1009	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	242.72	72.60	OK !	0.79	1.33	72.767.74	521.80	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1010	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	252.54	86.22	OK !	0.83	1.48	88.155.58	6.548.46	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1011	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	252.54	86.22	OK !	0.83	1.48	88.155.58	1.458.93	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1012	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	242.72	72.60	OK !	0.79	1.33	72.767.74	25.699.65	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1013	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	242.72	72.60	OK !	0.79	1.33	72.767.74	25.699.69	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1014	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	252.54	86.22	OK !	0.83	1.48	88.155.58	5.458.93	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1015	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	252.54	86.22	OK !	0.83	1.48	88.155.58	5.638.13	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1016	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	242.72	72.60	OK !	0.79	1.33	72.767.74	26.130.52	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1017	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	242.72	72.60	OK !	0.79	1.33	72.767.74	538.53	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1018	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	252.54	86.22	OK !	0.83	1.48	88.155.58	6.238.87	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1019	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	252.54	86.22	OK !	0.83	1.48	88.155.58	1.184.31	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1020	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	210.59	71.87	OK !	0.77	1.32	73.152.32	25.438.35	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1021	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	210.59	71.87	OK !	0.77	1.32	73.152.32	1.917.49	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1022	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	244.87	83.57	OK !	0.90	1.43	87.443.10	4.291.29	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1023	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	244.87	83.57	OK !	0.90	1.43	87.443.10	1.414.38	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1024	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	210.59	71.87	OK !	0.77	1.32	73.152.32	26.247.41	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1025	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	210.59	71.87	OK !	0.77	1.32	73.152.32	740.18	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1026	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	244.87	83.57	OK !	0.90	1.43	87.443.10	3.940.61	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1027	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	244.87	83.57	OK !	0.90	1.43	87.443.10	498.67	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1028	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	210.59	71.87	OK !	0.77	1.32	73.152.32	23.977.91	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1029	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	210.59	71.87	OK !	0.77	1.32	73.152.32	24.186.76	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1030	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	244.87	83.57	OK !	0.90	1.43	87.443.10	3.940.51	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1031	L 150 150 15	40.30	150.00	15.00	10.00	12.99	OK !	4.58	5.74	2.93	2.93	244.87	83.57	OK !	0.90	1.43	87.443.10	5.758.74	OK !	96.720.00	87.048.00	OK !	36.27	134.199.00	100.649.25							
1032	L 120 120 11	25.40	120.00	11.00	10.91	12.91	OK !	3.64	4.62	2.35	2.35	209.64	69.28	OK !	0.84	1.49	60.905.89	24.524.87	OK !	60.060.00	54.864.00	OK !	22.86	84.582.00	63.436.50							

1	=	2.100.000	kg/cm2
2	=	2.100.000	kg/cm2
	=	250	
	=	1.5	
	=	2.2x10	
	=	0.3	

No. Frame	Profil	A	h	t	Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Kuat Tarik					
																			Batang Lentur			Batang Tekan		
1233	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	208.64	88.78	OK !	0.98	1.40	40.905.88	857.56	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1234	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	237.56	101.10	OK !	1.26	1.84	37.119.44	2.842.77	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1235	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	237.56	101.10	OK !	1.26	1.84	37.119.44	2.838.85	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1236	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	208.64	88.78	OK !	0.98	1.40	40.905.88	21.566.43	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1237	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	208.64	88.78	OK !	0.98	1.40	40.905.88	1.570.25	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1238	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	237.56	101.10	OK !	1.26	1.84	37.119.44	2.678.13	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1239	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	237.56	101.10	OK !	1.26	1.84	37.119.44	2.498.30	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1240	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	208.64	88.78	OK !	0.98	1.40	40.905.88	21.541.87	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1241	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	208.64	88.78	OK !	0.98	1.40	40.905.88	21.327.43	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1242	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	237.56	101.10	OK !	1.26	1.84	37.119.44	3.062.57	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1243	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	237.56	101.10	OK !	1.26	1.84	37.119.44	4.917.80	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1244	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	261.03	111.08	OK !	1.39	1.78	34.059.32	27.438.67	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1245	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	261.03	111.08	OK !	1.39	1.78	34.059.32	27.438.75	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1246	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	261.03	111.08	OK !	1.39	1.78	34.059.32	27.438.74	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1247	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	261.03	111.08	OK !	1.39	1.78	34.059.32	27.438.69	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1248	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	261.03	111.08	OK !	1.39	1.78	34.059.32	209.95	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1249	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	261.03	111.08	OK !	1.39	1.78	34.059.32	208.43	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1250	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	167.85	71.34	OK !	0.77	1.32	46.259.94	3.117.17	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1251	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	167.85	71.34	OK !	0.77	1.32	46.259.94	3.038.43	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1252	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	111.76	47.56	OK !	0.51	1.14	53.582.30	1.808.22	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1253	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	111.76	47.56	OK !	0.51	1.14	53.582.30	1.317.81	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1254	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	55.88	23.78	OK !	0.26	1.00	60.894.65	9.954.03	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1255	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	55.88	23.78	OK !	0.26	1.00	60.894.65	1.008.16	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1256	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	55.88	23.78	OK !	0.26	1.00	60.894.65	11.512.77	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1257	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	111.76	47.56	OK !	0.51	1.14	53.582.30	329.40	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1258	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	167.85	71.34	OK !	0.77	1.32	46.259.94	9.165.26	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1259	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	33.298.27	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1260	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	32.998.78	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1261	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	33.194.34	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1262	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	8.830.25	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1263	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	9.498.16	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1264	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	32.159.59	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1265	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	8.830.91	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1266	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	9.455.11	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1267	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	33.781.10	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1268	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	33.298.54	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1269	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	32.998.78	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1270	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	33.194.34	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1271	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	33.298.54	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1272	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	32.961.40	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1273	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	32.129.54	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1274	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	32.129.54	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1275	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	32.961.40	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1276	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	210.59	89.61	OK !	0.99	1.50	40.851.20	32.129.54	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1277	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	285.32	87.37	OK !	0.94	1.47	41.340.87	29.767.82	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1278	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	285.32	87.37	OK !	0.94	1.47	41.340.87	29.767.82	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1279	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	3.45	4.79	1.79	1.78	55.88	31.75	OK !	0.34	1.04	35.864.25	693.33	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1280	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	3.45	4.79	1.79	1.78	55.88	31.75	OK !	0.34	1.04	35.864.25	309.17	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1281	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	285.32	87.37	OK !	0.94	1.47	41.340.87	178.46	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1282	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	285.32	87.37	OK !	0.94	1.47	41.340.87	21.819.99	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1283	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	3.45	4.79	1.79	1.78	111.76	63.50	OK !	0.68	1.25	24.786.13	137.89	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1284	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	224.56	95.56	OK !	1.03	1.57	38.822.50	2.917.51	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1285	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	224.56	95.56	OK !	1.03	1.57	38.822.50	1.980.05	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1286	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	3.45	4.79	1.79	1.78	167.85	95.25	OK !	1.03	1.57	25.747.88	298.35	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1287	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	254.85	108.45	OK !	1.17	1.75	34.859.74	25.827.91	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1288	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.48	4.62	2.28	2.35	254.85	108.45	OK !	1.17	1.75	34.859.74	10.849.71	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1289	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	3.45	4.79	1.79	1.78	55.88	31.75	OK !	0.34	1.04	35.864.25	309.14	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25

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No. Frame	Profil				Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Lentur			Kontrol Kuat Tarik		
1147	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	203.95	89.79	OK !	0.93	1.47	41.516.93	10.900.69	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1148	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	203.95	89.79	OK !	0.93	1.47	41.516.93	10.900.69	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1149	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	218.94	95.75	OK !	1.00	1.54	39.558.57	10.677.31	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1150	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	218.94	95.75	OK !	1.00	1.54	39.558.57	10.677.31	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1151	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	159.69	69.86	OK !	0.91	1.20	31.099.83	8.577.44	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1152	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	159.69	69.86	OK !	0.91	1.44	25.838.56	7.127.25	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1153	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	243.19	103.48	OK !	1.11	1.68	36.385.05	10.119.96	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1154	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	243.19	103.48	OK !	1.11	1.68	36.385.05	10.119.96	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1155	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	49.35	28.04	OK !	0.30	1.07	38.391.10	2.775.10	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1156	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	203.95	89.79	OK !	0.93	1.47	41.516.93	10.900.69	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1157	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	203.95	89.79	OK !	0.93	1.47	41.516.93	10.900.69	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1158	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	56.69	56.38	OK !	0.60	1.20	31.099.83	7.199.48	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1159	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	218.94	95.75	OK !	1.00	1.54	39.558.57	10.677.31	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1160	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	218.94	95.75	OK !	1.00	1.54	39.558.57	10.677.31	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1161	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	148.04	84.11	OK !	0.91	1.44	25.838.56	7.127.25	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1162	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	243.19	103.48	OK !	1.11	1.68	36.385.05	10.119.96	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1163	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	243.19	103.48	OK !	1.11	1.68	36.385.05	10.119.96	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1164	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	49.35	28.04	OK !	0.30	1.07	38.391.10	2.775.10	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1165	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	203.95	89.79	OK !	0.93	1.47	41.516.93	10.900.69	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1166	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	203.95	89.79	OK !	0.93	1.47	41.516.93	10.900.69	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1167	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	98.69	56.38	OK !	0.60	1.20	31.099.83	7.199.48	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1168	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	218.94	95.75	OK !	1.00	1.54	39.558.57	10.677.31	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1169	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	218.94	95.75	OK !	1.00	1.54	39.558.57	10.677.31	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1170	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	148.04	84.11	OK !	0.91	1.44	25.838.56	7.127.25	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1171	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	243.19	103.48	OK !	1.11	1.68	36.385.05	10.119.96	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1172	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	243.19	103.48	OK !	1.11	1.68	36.385.05	10.119.96	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1173	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	286.27	121.82	OK !	1.31	2.15	28.351.28	24.748.95	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1174	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	286.27	121.82	OK !	1.31	2.15	28.351.28	24.748.95	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1175	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	286.27	121.82	OK !	1.31	2.15	28.351.28	24.748.95	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1176	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	286.27	121.82	OK !	1.31	2.15	28.351.28	24.748.95	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1177	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	286.27	121.82	OK !	1.31	2.15	28.351.28	24.748.95	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1178	L 120.120.11	25.40	120.00	11.00	10.91	12.91	OK !	3.68	4.62	2.25	2.25	286.27	121.82	OK !	1.31	2.15	28.351.28	24.748.95	OK !	60.960.00	54.864.00	OK !	22.86	84.582.00	63.436.50
1179	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	286.27	162.66	OK !	1.75	3.83	9.704.21	17.719.79	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1180	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	286.27	162.66	OK !	1.75	3.83	9.704.21	17.719.79	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1181	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.75	1.75	286.27	162.66	OK !	1.75	3.83	9.704.21	17.719.79	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1182	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	237.75	129.82	OK !	1.33	2.15	21.393.73	4.29	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1183	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	237.75	129.82	OK !	1.33	2.15	21.393.73	5.99	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1184	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	237.75	129.82	OK !	1.33	2.15	21.393.73	44.615.63	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1185	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	237.75	129.82	OK !	1.33	2.15	21.393.73	44.615.63	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1186	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	237.75	129.82	OK !	1.33	2.15	21.393.73	44.615.63	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1187	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	128.43	85.86	OK !	0.71	1.27	36.248.78	2.447.93	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1188	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	85.62	43.93	OK !	0.47	1.11	41.351.87	994.78	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1189	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	85.62	43.93	OK !	0.47	1.11	41.351.87	994.78	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1190	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	42.81	21.95	OK !	0.24	1.00	46.080.00	4.411.98	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1191	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	42.81	21.95	OK !	0.24	1.00	46.080.00	1.760.38	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1192	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	42.81	21.95	OK !	0.24	1.00	46.080.00	1.760.38	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1193	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	85.62	43.93	OK !	0.47	1.11	41.351.87	1.304.86	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1194	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	128.43	85.86	OK !	0.71	1.27	36.248.78	6.166.09	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1195	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	128.43	85.86	OK !	0.71	1.27	36.248.78	9.278.45	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1196	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	206.88	106.09	OK !	1.14	1.71	28.867.28	21.750.78	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1197	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	206.88	106.09	OK !	1.14	1.71	28.867.28	21.420.82	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1198	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	206.88	106.09	OK !	1.14	1.71	28.867.28	21.580.04	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1199	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	206.88	106.09	OK !	1.14	1.71	28.867.28	25.085.65	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1200	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	206.88	106.09	OK !	1.14	1.71	28.867.28	9.153.43	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1201	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	206.88	106.09	OK !	1.14	1.71	28.867.28	5.712.54	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1202	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	206.88	106.09	OK !	1.14	1.71	28.867.28	10.600.76	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
1203	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.65	1.65	206.88	106.09	OK !	1.14	1.71	28.867.28	10.600.76	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00

No. Frame	Profil	A	b	t	Kontrol Kelangsingan			Kontrol Kelangsingan							Kontrol Kekuatan Profil					Kontrol Kuat Tarik			Kontrol Kuat Tekan			
																				Kontrol Leleh			Kontrol Putus			
1204	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	19.732.85	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1205	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	19.457.19	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1206	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	19.457.19	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1207	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	19.793.83	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1208	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	19.457.19	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1209	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	21.203.82	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1210	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	21.429.93	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1211	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	22.383.56	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1212	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	21.089.80	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1213	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	9.603.73	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1214	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	5.711.81	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1215	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	42.87	24.12	OK !	0.28	1.00	37.257.96	187.63	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1216	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.86	106.26	OK !	1.14	1.71	28.847.28	6.874.80	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1217	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	202.78	103.89	OK !	1.12	1.68	27.345.78	15.911.31	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1218	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	85.62	48.55	OK !	0.52	1.14	32.443.54	146.50	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1219	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	213.96	106.72	OK !	1.18	1.77	28.053.24	1.700.78	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1220	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	213.96	106.72	OK !	1.18	1.77	28.053.24	1.490.95	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1221	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	128.43	72.87	OK !	0.78	1.33	27.929.73	185.63	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1222	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	12.915.43	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1223	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1224	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	42.87	24.12	OK !	0.28	1.00	37.257.96	370.04	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1225	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	202.78	103.89	OK !	1.12	1.68	27.345.78	5.552.87	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1226	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	202.78	103.89	OK !	1.12	1.68	27.345.78	6.552.72	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1227	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	85.62	48.55	OK !	0.52	1.14	32.443.54	366.37	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1228	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	213.96	106.72	OK !	1.18	1.77	28.053.24	1.726.83	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1229	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	213.96	106.72	OK !	1.18	1.77	28.053.24	1.726.83	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1230	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	128.43	72.87	OK !	0.78	1.33	27.929.73	367.11	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1231	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	19.088.69	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1232	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	19.088.69	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1233	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	42.87	24.12	OK !	0.28	1.00	37.257.96	187.63	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1234	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	202.78	103.89	OK !	1.12	1.68	27.345.78	15.911.31	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1235	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	202.78	103.89	OK !	1.12	1.68	27.345.78	6.874.80	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1236	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	85.62	48.55	OK !	0.52	1.14	32.443.54	146.50	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1237	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	213.96	106.72	OK !	1.18	1.77	28.053.24	3.490.89	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1238	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	213.96	106.72	OK !	1.18	1.77	28.053.24	1.700.78	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1239	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	128.43	72.87	OK !	0.78	1.33	27.929.73	185.63	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1240	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1241	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	17.895.42	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1242	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	247.06	126.72	OK !	1.36	2.33	19.812.46	17.121.49	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1243	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	247.06	126.72	OK !	1.36	2.33	19.812.46	17.565.58	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1244	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	247.06	126.72	OK !	1.36	2.33	19.812.46	1.610.65	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1245	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	247.06	126.72	OK !	1.36	2.33	19.812.46	17.565.52	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1246	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	247.06	126.72	OK !	1.36	2.33	19.812.46	17.121.49	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1247	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	247.06	126.72	OK !	1.36	2.33	19.812.46	17.121.49	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1248	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	247.06	140.37	OK !	1.51	2.66	13.029.42	696.56	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1249	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	247.06	140.37	OK !	1.51	2.66	13.029.42	696.56	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1250	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	247.06	140.37	OK !	1.51	2.66	13.029.42	1.650.43	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	
1251	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	5.478.01	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1252	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1253	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1254	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1255	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1256	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1257	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1258	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1259	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	
1260	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	232.50	119.28	OK !	1.28	2.08	22.351.44	6.826.02	OK !	46.080.00	41.472.00	OK !	17.28	83.936.00	47.952.00	

[illegible] kg/cm2

[illegible] kg/cm2

[illegible] 43 kn (batang siku-siku)

[illegible] 1428 kn (batang tekan)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan															Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil						Kontrol Leleh			Kontrol Fraktur		
		(cm²)	(mm)	(mm)	bf	tf	bf / 2 tf	kx . Lkx / rx	ky . Lky / ry	kz . Lkz / rz	max (λx , λy)	λr = 200	Cc	Ix	Iy	φPn	Pu	φPn > Pu	Pu = Ag.fy	φPn = 0.9 Pn	φPn > Pu	Ae = 85%.Ag	Pu = Ae.Fu	φPn = 0.75 Pu
1318	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	212.80	109.14	OK !	1.18	1.78	28.188.85	2.387.73	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1319	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	212.80	109.14	OK !	1.18	1.78	28.188.85	2.387.73	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1320	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	212.80	109.14	OK !	1.18	1.78	28.188.85	2.387.73	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1321	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	212.80	109.14	OK !	1.18	1.78	28.188.85	2.387.73	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1322	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	212.80	109.14	OK !	1.18	1.78	28.188.85	2.387.73	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1323	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	212.80	109.14	OK !	1.18	1.78	28.188.85	2.387.73	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1324	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	212.80	109.14	OK !	1.18	1.78	28.188.85	2.387.73	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1325	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	212.80	109.14	OK !	1.18	1.78	28.188.85	2.387.73	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1326	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	62.75	35.85	OK !	0.38	1.09	34.932.55	1.294.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1327	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.97	106.14	OK !	1.14	1.71	26.887.35	1.294.52	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1328	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.97	106.14	OK !	1.14	1.71	26.887.35	1.294.52	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1329	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1330	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	231.12	118.52	OK !	1.28	2.04	22.639.82	2.190.73	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1331	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	231.12	118.52	OK !	1.28	2.04	22.639.82	3.313.99	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1332	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	62.75	35.85	OK !	0.38	1.09	34.932.55	1.294.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1333	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.97	106.14	OK !	1.14	1.71	26.887.35	1.294.52	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1334	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.97	106.14	OK !	1.14	1.71	26.887.35	1.294.52	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1335	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1336	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	231.12	118.52	OK !	1.28	2.04	22.639.82	3.313.99	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1337	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	231.12	118.52	OK !	1.28	2.04	22.639.82	3.313.99	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1338	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	62.75	35.85	OK !	0.38	1.09	34.932.55	1.294.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1339	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.97	106.14	OK !	1.14	1.71	26.887.35	1.294.52	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1340	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	206.97	106.14	OK !	1.14	1.71	26.887.35	1.294.52	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1341	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1342	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	231.12	118.52	OK !	1.28	2.04	22.639.82	4.031.66	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1343	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	231.12	118.52	OK !	1.28	2.04	22.639.82	4.031.66	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1344	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	96.53	OK !	1.04	1.58	29.129.05	858.36	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1345	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	96.53	OK !	1.04	1.58	29.129.05	1.672.36	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1346	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	96.53	OK !	1.04	1.58	29.129.05	887.71	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1347	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	96.53	OK !	1.04	1.58	29.129.05	1.672.36	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1348	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	96.53	OK !	1.04	1.58	29.129.05	1.672.36	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1349	L 100.100.10	19.20	100.00	10.00	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	96.53	OK !	1.04	1.58	29.129.05	887.71	OK !	41.472.00	OK !	17.28	63.936.00	47.952.00
1350	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1351	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1352	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1353	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1354	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1355	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1356	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1357	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1358	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1359	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1360	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1361	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1362	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1363	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1364	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1365	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1366	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1367	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1368	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1369	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1370	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1371	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1372	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1373	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
1374	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45	1.78	1.78	125.49	71.30	OK !	0.77	1.32	28.242.71	737.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25

No. Frame	Profil	A	h	Y	Kontrol Tekuk			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Kuat Tarik					
					Kontrol Penampang														Kontrol Leleh			Kontrol Fraktur		
		(cm²)	(mm)	(mm)	bf/t	λp	bf/t < λp	λr = fy/σr	λ = lk/i min	λ < 200									Ae = Ag.Fy	φPn = 0,9 Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0,75 Pn
1375	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	209.69	118.14	OK !										
1376	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	209.69	118.14	OK !										
1377	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	52.94	30.28	OK !										
1378	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	204.68	118.29	OK !										
1379	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	204.68	118.29	OK !										
1380	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	183.38	105.98	OK !										
1381	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	221.95	126.11	OK !										
1382	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	221.95	126.11	OK !										
1383	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	52.94	30.08	OK !										
1384	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	204.68	118.29	OK !										
1385	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	204.68	118.29	OK !										
1386	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	183.38	105.98	OK !										
1387	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	221.95	126.11	OK !										
1388	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	221.95	126.11	OK !										
1389	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	52.94	30.08	OK !										
1390	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	204.68	118.29	OK !										
1391	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	204.68	118.29	OK !										
1392	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	183.38	105.98	OK !										
1393	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	221.95	126.11	OK !										
1394	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	221.95	126.11	OK !										
1395	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	158.82	90.24	OK !										
1396	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	158.82	90.24	OK !										
1397	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	158.82	90.24	OK !										
1398	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	158.82	90.24	OK !										
1399	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	158.82	90.24	OK !										
1400	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	158.82	90.24	OK !										
1401	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	158.82	90.24	OK !										
1402	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	158.82	90.24	OK !										
1403	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	158.82	90.24	OK !										
1404	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	43.54	24.51	OK !										
1405	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	43.54	24.51	OK !										
1406	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	43.54	24.51	OK !										
1407	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	86.27	49.02	OK !										
1408	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	86.27	49.02	OK !										
1409	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	86.27	49.02	OK !										
1410	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	43.54	24.51	OK !										
1411	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	202.84	115.25	OK !										
1412	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	202.84	115.25	OK !										
1413	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	86.27	49.02	OK !										
1414	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	214.20	121.70	OK !										
1415	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	214.20	121.70	OK !										
1416	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1417	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1418	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1419	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1420	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1421	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1422	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1423	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1424	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1425	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1426	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1427	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1428	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1429	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1430	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										
1431	L 90.90.9	15.50	90.00	9.00	10.00	12.91	OK !	2.74	3.45		1.78	208.97	117.59	OK !										

No. Frame	Profil	a	b	t	Kontrol Kuat Tekan														Kontrol Kuat Tarik						
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil						Kontrol Leleh			Kontrol Putus			
		(cm)	(mm)	(mm)	bf/2t	λf	bf/2t < λf	h/tw	λw	h/tw < λw	Ix	ix	iy	Iy	Ag	Ae = 0,85 Ag	Ae > Ag	Pu < Ø Pn	Pn = Ag.Fy	ØPn = 0,9 Ag.Fy	ØPn > Pu	Ae = 0,85 Ag	Pn = Ae.Fu	ØPn = 0,75 Pn	ØPn > Pu
1489	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1490	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1491	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1492	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1493	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1494	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1495	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1496	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1497	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1498	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1499	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1500	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1501	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1502	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1503	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	264.68	116.29	OK !	1.25	1.95	18.983.90	10.821.92	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1504	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	100.00	56.80	OK !	0.81	1.20	30.960.48	16.719.66	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1505	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	100.00	56.80	OK !	0.81	1.20	30.960.48	16.719.66	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1506	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	280.39	159.31	OK !	1.72	3.59	10.515.55	5.678.40	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1507	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	280.39	159.31	OK !	1.72	3.59	10.515.55	5.678.40	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1508	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	280.39	159.31	OK !	1.72	3.59	10.515.55	5.678.40	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1509	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	280.39	159.31	OK !	1.72	3.59	10.515.55	5.678.40	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1510	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	280.39	159.31	OK !	1.72	3.59	10.515.55	5.678.40	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !
1511	L 90.90.9	15.50	90.00	9.00	5.00	12.81	OK !	2.74	3.45	1.76	1.76	280.39	159.31	OK !	1.72	3.59	10.515.55	5.678.40	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25	OK !

HASIL OUPUT SAP2000
TOWER ALTERNATIF 3


Z
X
Y

= 3,700.00 kg/cm2

= 2,100,000.00 kg/cm2

= 250 / fy (2.6) (batang sisi-sisi)

= 1700 / fy (14.5.(3)) (batang sudut)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan										Kontrol Kuat Tarik								
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Patah		
		(cm2)	(mm)	(mm)	bf/t	r/t	bf/t < r/t	lx / rx	ly / ry	lx / rmin	lmax / rmin	Lk / rmin	Lk / rmin < 200	Lk / rmin < 200	Nc	Nn	φNn	Pu	φNn > Pu	Pn = Ag.Fy	φPn = 0.9.Pn	φPn > Pu	An = 85%.Ag	Pn = An.Fu	φPn = 0.75.Pn
1	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,400.00	OK !	150.50	150.50	150.50	150.50	256.32	1.33	OK !	0.83	1.15	101,808.53	85,573.59	OK !	101,808.53	91,627.68	OK !	36.06	141,256.34	105,942.51
2	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,400.00	OK !	150.50	150.50	150.50	150.50	256.32	1.33	OK !	0.83	1.15	101,808.53	85,573.59	OK !	101,808.53	91,627.68	OK !	36.06	141,256.34	105,942.51
310	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	199.76	98.82	OK !	0.41	1.27	30,960.45	429.74	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
311	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	199.76	98.82	OK !	0.41	1.27	30,960.45	429.74	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
312	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	44.12	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
313	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	47.82	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
314	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	15,470.32	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
315	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	15,449.88	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
316	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	16,467.29	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
317	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	16,467.45	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
318	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	16,670.90	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
319	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	16,906.05	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
320	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	9,116.53	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
321	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	2,960.97	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
322	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	2,973.06	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
323	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	9,118.37	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
324	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	16,996.24	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
325	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	16,671.20	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
326	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	16,655.03	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
327	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	15,870.93	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
328	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	15,870.99	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
329	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	204.68	101.29	OK !	1.25	1.48	18,883.90	16,056.23	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
330	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	199.76	98.82	OK !	0.41	1.27	30,960.45	1,011.43	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
331	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	199.76	98.82	OK !	0.41	1.27	30,960.45	502.75	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
332	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	199.76	98.82	OK !	0.41	1.27	30,960.45	502.74	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
333	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	199.76	98.82	OK !	0.41	1.27	30,960.45	5,271.85	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
334	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	199.76	98.82	OK !	0.41	1.27	30,960.45	4,382.94	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
335	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	199.76	98.82	OK !	0.41	1.27	30,960.45	4,381.71	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
336	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	199.76	98.82	OK !	0.41	1.27	30,960.45	5,271.16	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
337	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	208.00	108.18	OK !	1.27	2.02	18,381.66	1,917.33	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
338	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	208.00	108.18	OK !	1.27	2.02	18,381.66	3,083.63	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
339	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	66.67	37.66	OK !	0.41	1.09	34,514.43	88.48	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
340	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	201.46	114.47	OK !	1.23	1.90	19,595.34	1,899.33	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
341	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	201.46	114.47	OK !	1.23	1.90	19,595.34	5,805.16	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
342	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	33.33	18.94	OK !	0.29	1.00	37,200.00	87.60	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
343	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	208.00	118.18	OK !	1.37	2.22	18,381.66	4,492.52	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
344	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	208.00	118.18	OK !	1.37	2.22	18,381.66	4,492.11	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
345	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	66.67	37.66	OK !	0.41	1.09	34,514.43	173.54	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
346	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	208.00	118.18	OK !	1.37	2.02	18,381.66	1,917.93	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
347	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	208.00	118.18	OK !	1.37	2.02	18,381.66	3,083.63	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
348	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	66.67	37.66	OK !	0.41	1.09	34,514.43	86.48	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
349	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	201.46	114.47	OK !	1.23	1.90	19,595.34	5,806.06	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
350	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	201.46	114.47	OK !	1.23	1.90	19,595.34	1,881.12	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
351	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	33.33	18.94	OK !	0.29	1.00	37,200.00	87.60	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
352	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	201.46	114.47	OK !	1.23	1.90	19,595.34	3,036.47	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
353	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	201.46	114.47	OK !	1.23	1.90	19,595.34	3,035.42	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
354	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	33.33	18.94	OK !	0.29	1.00	37,200.00	179.00	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
355	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	66.67	37.66	OK !	0.41	1.09	34,514.43	1,357.69	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
356	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	66.67	37.66	OK !	0.41	1.09	34,514.43	1,119.70	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
357	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	66.67	37.66	OK !	0.41	1.09	34,514.43	1,899.20	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
358	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	33.33	18.94	OK !	0.29	1.00	37,200.00	1,831.88	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
359	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	33.33	18.94	OK !	0.29	1.00	37,200.00	1,100.48	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
360	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	33.33	18.94	OK !	0.29	1.00	37,200.00	406.11	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
361	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	129.41	73.53	OK !	0.79	1.34	27,824.80	1,887.04	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
362	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	129.41	73.53	OK !	0.79	1.34	27,824.80	582.86	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
363	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	129.41	73.53	OK !	0.79	1.34	27,824.80	582.87	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25
364	L 90.90.9	15.50	90	9	10.00	12.91	OK !	1.78	3.45	1.78	3.78	129.41	73.53	OK !	0.79	1.34	27,824.80	6,160.39	OK !	37,200.00	33,480.00	OK !	13.95	51,815.00	38,711.25

fy = 2,400.00 kg/cm2

E = 2,100,000.00 kg/cm2

W = 250 / √fc = 12.91 (Batang sifat-sifat)

λ = 220.00 / √fy = 7.4535 (Batang Invalid)

No. Frame	Profil	A (cm²)	G (mm)	t (mm)	Kontrol Pembatasan			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Kuat Tarik			Kontrol Kuat Tekan			
					bf/t	ar/t	bf/t < ar/t	lx = l/ix	ly = l/iy	lmax = lmax	lmin = lmin	Δλ = lmax/lmin	λ = Δλ/lmax	λ < 200	nc	w	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0.9 Pn	φPn > Pu	Ae = (85% Ag	Pn = Ae.Fu	φPn = 0.75 Pn	φ
365	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	109.47	73.53	OK !	0.79	1.34	27,804.60	5,444.10	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
366	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	109.47	73.53	OK !	0.79	1.34	27,804.60	5,444.10	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
367	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	109.47	73.53	OK !	0.79	1.34	27,804.60	5,444.10	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
368	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	109.47	73.53	OK !	0.79	1.34	27,804.60	5,444.10	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
369	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	109.47	73.53	OK !	0.79	1.34	27,804.60	5,444.10	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
370	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	214.20	121.70	OK !	1.31	2.15	17,334.21	3,728.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
371	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	214.20	121.70	OK !	1.31	2.15	17,334.21	3,728.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
372	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	86.27	49.02	OK !	0.53	1.15	32,423.88	17,196.46	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
373	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	202.84	115.25	OK !	1.24	1.92	19,329.84	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
374	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	202.84	115.25	OK !	1.24	1.92	19,329.84	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
375	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	43.14	24.51	OK !	0.26	1.00	37,023.12	9,345.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
376	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	214.20	121.70	OK !	1.31	2.15	17,334.21	3,728.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
377	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	214.20	121.70	OK !	1.31	2.15	17,334.21	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
378	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	86.27	49.02	OK !	0.53	1.15	32,423.88	17,196.46	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
379	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	202.84	115.25	OK !	1.24	1.92	19,329.84	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
380	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	202.84	115.25	OK !	1.24	1.92	19,329.84	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
381	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	43.14	24.51	OK !	0.26	1.00	37,023.12	9,345.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
382	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
383	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
384	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
385	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
386	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
387	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
388	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
389	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
390	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
391	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
392	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
393	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
394	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
395	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
396	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
397	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
398	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
399	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	205.97	117.59	OK !	1.27	2.00	18,566.45	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
400	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	214.20	121.70	OK !	1.31	2.15	17,334.21	3,728.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
401	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	214.20	121.70	OK !	1.31	2.15	17,334.21	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
402	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	86.27	49.02	OK !	0.53	1.15	32,423.88	17,196.46	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
403	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	202.84	115.25	OK !	1.24	1.92	19,329.84	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
404	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	202.84	115.25	OK !	1.24	1.92	19,329.84	4,874.90	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
405	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	43.14	24.51	OK !	0.26	1.00	37,023.12	9,345.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
406	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	86.27	49.02	OK !	0.53	1.15	32,423.88	17,196.46	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
407	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	86.27	49.02	OK !	0.53	1.15	32,423.88	17,196.46	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
408	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	43.14	24.51	OK !	0.26	1.00	37,023.12	9,345.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
409	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	43.14	24.51	OK !	0.26	1.00	37,023.12	9,345.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
410	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	43.14	24.51	OK !	0.26	1.00	37,023.12	9,345.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
411	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	43.14	24.51	OK !	0.26	1.00	37,023.12	9,345.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
412	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	158.82	90.24	OK !	0.97	1.51	24,888.75	15,167.54	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
413	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	158.82	90.24	OK !	0.97	1.51	24,888.75	3,729.29	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
414	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	158.82	90.24	OK !	0.97	1.51	24,888.75	523.33	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
415	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	158.82	90.24	OK !	0.97	1.51	24,888.75	9,990.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
416	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	158.82	90.24	OK !	0.97	1.51	24,888.75	7,847.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
417	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	158.82	90.24	OK !	0.97	1.51	24,888.75	865.19	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
418	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	158.82	90.24	OK !	0.97	1.51	24,888.75	859.40	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
419	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	158.82	90.24	OK !	0.97	1.51	24,888.75	2,836.57	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
420	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	158.82	90.24	OK !	0.97	1.51	24,888.75	8,915.15	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
421	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	3.74	1.76	221.85	126.11	OK !	1.36	2.30	16,143.73	4,193.25	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	

No. Frame	Profil	A	b	r	Kontrol Kuat Tekan																							
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Lentur				Kontrol Geser			
		(cm²)	(mm)	(mm)	bf/	tf/	bf/ < tf/	λx = kx.lx/	λy = ky.ly/	λx < λy	λmax = λy	λmax < 200						Mn = Mp.Fy	øMn = 0.9.Mn	øMn > Mu	Nn = 0.85.Ag.Fcr	Pn = An.Fcr	øPn = 0.75.Pn	øPn
422	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	221.95	126.11	OK !	1.38	2.00	16.143.73	2.313.24	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
423	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	105.98	60.18	OK !	0.65	1.33	30.333.29	134.73	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
424	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	204.68	116.29	OK !	1.25	1.84	18.983.80	3.491.83	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
425	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	204.68	116.29	OK !	1.25	1.84	18.983.80	438.86	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
426	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	52.94	30.08	OK !	0.32	1.03	35.977.83	134.55	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
427	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	221.95	126.11	OK !	1.38	2.00	16.143.73	1.739.04	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
428	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	221.95	126.11	OK !	1.38	2.00	16.143.73	1.751.81	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
429	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	105.98	60.18	OK !	0.65	1.33	30.333.29	269.36	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
430	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	204.68	116.29	OK !	1.25	1.84	18.983.80	4.845.84	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
431	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	204.68	116.29	OK !	1.25	1.84	18.983.80	5.033.96	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
432	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	52.94	30.08	OK !	0.32	1.03	35.977.83	231.96	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
433	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	221.95	126.11	OK !	1.38	2.00	16.143.73	2.357.26	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
434	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	221.95	126.11	OK !	1.38	2.00	16.143.73	4.187.86	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
435	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	105.98	60.18	OK !	0.65	1.33	30.333.29	134.85	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
436	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	204.68	116.29	OK !	1.25	1.84	18.983.80	438.83	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
437	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	204.68	116.29	OK !	1.25	1.84	18.983.80	5.484.22	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
438	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	52.94	30.08	OK !	0.32	1.03	35.977.83	116.24	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
439	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	14.038.85	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
440	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	15.284.91	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
441	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	15.435.88	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
442	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	1.435.11	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
443	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	15.880.47	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
444	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	15.748.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
445	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	8.574.44	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
446	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	3.811.33	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
447	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	9.88	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
448	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	21.94	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
449	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	2.787.74	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
450	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	6.543.66	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
451	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	19.742.08	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
452	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	15.858.79	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
453	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	15.436.87	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
454	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	15.435.93	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
455	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	15.286.87	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
456	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	209.69	119.14	OK !	1.28	2.06	18.087.53	14.818.08	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
457	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	52.94	30.08	OK !	0.32	1.03	35.977.83	1.980.85	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
458	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	105.98	60.18	OK !	0.65	1.33	30.333.29	748.37	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
459	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	105.98	60.18	OK !	0.65	1.33	30.333.29	2.048.89	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
460	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	52.94	30.08	OK !	0.32	1.03	35.977.83	493.29	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
461	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	52.94	30.08	OK !	0.32	1.03	35.977.83	2.980.39	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
462	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	105.98	60.18	OK !	0.65	1.33	30.333.29	2.048.89	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
463	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	188.24	106.95	OK !	1.15	1.73	21.552.88	1.445.43	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
464	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	188.24	106.95	OK !	1.15	1.73	21.552.88	721.94	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
465	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	188.24	106.95	OK !	1.15	1.73	21.552.88	221.45	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
466	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	98.53	OK !	1.04	1.58	29.529.55	3.496.44	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
467	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	98.53	OK !	1.04	1.58	29.529.55	3.458.25	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
468	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	98.53	OK !	1.04	1.58	29.529.55	870.00	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
469	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	98.53	OK !	1.04	1.58	29.529.55	1.958.44	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
470	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	98.53	OK !	1.04	1.58	29.529.55	3.794.13	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
471	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	188.24	98.53	OK !	1.04	1.58	29.529.55	3.159.67	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
472	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	231.12	118.52	OK !	1.28	2.04	27.838.82	4.242.92	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
473	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	231.12	118.52	OK !	1.28	2.04	27.838.82	3.726.33	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
474	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	125.48	71.30	OK !	0.77	1.33	29.242.71	365.66	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
475	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	205.97	108.14	OK !	1.14	1.71	26.887.35	3.026.07	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
476	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	205.97	108.14	OK !	1.14	1.71	26.887.35	8.894.07	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			
477	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.26	1.26	62.75	35.65	OK !	0.38	1.08	34.952.55	298.85	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25			
478	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	231.12	118.52	OK !	1.28	2.04	27.838.82	3.653.13	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00			

fy = [illegible] kg/cm2

E = 2.100.000,00 kg/cm2

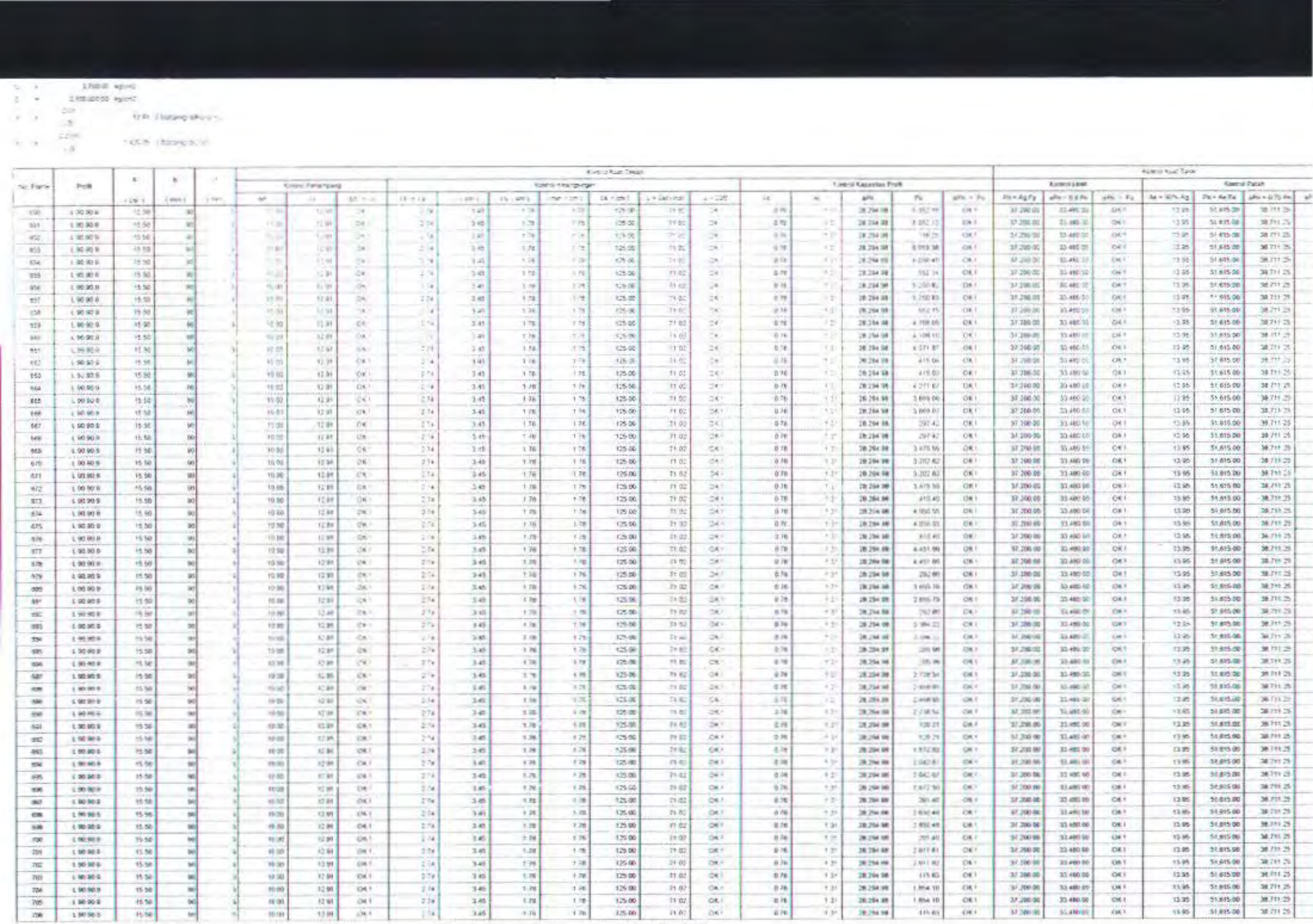
b = [illegible] (Lebarsayap x - arah y)

d = [illegible] (Tebalsayap x - arah y)

No. Frame	Profil	A	b	t	Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Kuat Tarik				
		(cm2)	(mm)	(mm)	bf/2tf	h/tw	Ket	λx = lkx/ix	λy = lky/iy	λx < λr	λy < λr	λc = λc max	λc < 200	vx	vy	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0,9.Pn	φPn > Tu	Ae = 90% Ag	Pn = Ae.Fu	φPn = 0,75.Pn
479	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	237.42	119.52	OK !	1.28	2.04	22.836.82	1.030.73	OK !	40.320.00	41.472.00	OK !	17.28	63.936.00	47.952.00
480	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	128.49	71.20	OK !	2.77	1.32	29.242.71	181.25	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
481	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	214.63	106.14	OK !	1.14	1.71	26.897.35	5.155.65	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
482	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	238.07	106.14	OK !	1.14	1.71	26.897.35	2.578.12	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
483	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	82.75	65.45	OK !	0.98	1.29	34.932.55	561.58	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
484	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	237.42	118.52	OK !	1.28	2.04	22.836.82	1.429.05	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
485	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	237.42	118.52	OK !	1.28	2.04	22.836.82	4.069.82	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
486	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	128.49	71.20	OK !	2.77	1.32	29.242.71	13.05	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
487	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	238.07	106.14	OK !	1.14	1.71	26.897.35	1.325.70	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
488	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	238.07	106.14	OK !	1.14	1.71	26.897.35	5.575.40	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
489	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	82.75	65.45	OK !	0.98	1.29	34.932.55	537.58	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
490	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	22.498.27	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
491	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	22.883.51	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
492	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	23.283.95	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
493	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	23.206.45	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
494	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	23.308.31	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
495	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	22.989.93	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
496	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	8.760.92	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
497	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	3.304.06	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
498	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	18.05	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
499	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	175.31	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
500	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	3.214.17	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
501	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	9.589.74	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
502	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	23.238.54	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
503	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	23.329.95	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
504	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	23.192.34	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
505	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	23.188.46	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
506	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	22.818.28	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
507	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	105.14	OK !	1.18	1.75	26.188.66	22.179.04	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
508	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	82.75	32.19	OK !	0.35	1.29	44.978.71	3.233.21	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
509	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	125.46	64.35	OK !	0.69	1.29	38.399.38	3.318.24	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
510	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	125.46	64.35	OK !	0.69	1.29	38.399.38	1.309.13	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
511	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	82.75	32.19	OK !	0.35	1.29	44.978.71	1.822.25	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
512	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	82.75	32.19	OK !	0.35	1.29	44.978.71	3.304.17	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
513	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	125.46	64.35	OK !	0.69	1.29	38.399.38	2.553.51	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
514	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	237.65	123.88	OK !	1.33	2.22	18.289.81	1.958.15	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
515	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	237.65	123.88	OK !	1.33	2.22	18.289.81	987.66	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
516	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	237.65	123.88	OK !	1.33	2.22	18.289.81	963.77	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
517	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	241.53	123.86	OK !	1.33	2.22	20.739.95	3.065.73	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
518	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	241.53	123.86	OK !	1.33	2.22	20.739.95	1.944.40	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
519	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	345.10	82.44	OK !	0.99	1.42	29.152.15	336.52	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
520	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	209.69	107.53	OK !	1.16	1.73	26.562.87	5.381.76	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
521	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	209.69	107.53	OK !	1.16	1.73	26.562.87	145.40	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
522	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	72.55	41.22	OK !	0.44	1.10	33.887.28	231.85	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
523	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	241.53	123.86	OK !	1.33	2.22	20.739.95	4.389.94	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
524	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	241.53	123.86	OK !	1.33	2.22	20.739.95	4.514.68	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
525	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	345.10	82.44	OK !	0.99	1.42	29.152.15	627.91	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
526	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	209.69	107.53	OK !	1.16	1.73	26.562.87	12.367.15	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
527	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	209.69	107.53	OK !	1.16	1.73	26.562.87	7.563.92	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
528	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	72.55	41.22	OK !	0.44	1.10	33.887.28	515.34	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
529	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	241.53	123.86	OK !	1.33	2.22	20.739.95	1.686.92	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
530	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	241.53	123.86	OK !	1.33	2.22	20.739.95	2.610.58	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
531	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	345.10	82.44	OK !	0.99	1.42	29.152.15	360.29	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
532	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	209.69	107.53	OK !	1.16	1.73	26.562.87	3.714.54	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
533	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	209.69	107.53	OK !	1.16	1.73	26.562.87	4.228.54	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
534	L 90.90.9	15.50	90	9	10.00	12.00	OK !	2.74	3.45	1.78	1.78	72.55	41.22	OK !	0.44	1.10	33.887.28	250.28	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
535	L 100.100.10	19.20	100	10	10.00	12.00	OK !	3.04	3.82	1.95	1.95	212.83	111.81	OK !	1.20	1.81	25.539.97	11.944.38	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00

No. Frame	Profil	A	b	c	Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kekuatan Profil					Kontrol Lentur			Kontrol Aksial Tarik		
536	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.431.57	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
537	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.431.57	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
538	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.431.57	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
539	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.431.57	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
540	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.431.57	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
541	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.431.57	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
542	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.431.57	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
543	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	22.111.53	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
544	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	22.096.25	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
545	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.943.96	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
546	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.791.67	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
547	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	8.711.87	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
548	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	2.681.72	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
549	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	501.39	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
550	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	454.02	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
551	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	1.938.02	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
552	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	6.473.20	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
553	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.691.25	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
554	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.993.27	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
555	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	22.149.78	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
556	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	22.167.95	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
557	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.771.85	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
558	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	216.37	110.96	OK !	1.19	1.79	25.706.88	21.310.50	OK !	48.000.00	41.472.00	OK !	17.28	63.936.00	47.952.00
559	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	145.10	74.41	OK !	0.80	1.34	34.261.20	2.881.35	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
560	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	145.10	74.41	OK !	0.80	1.34	34.261.20	403.64	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
561	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	145.10	74.41	OK !	0.80	1.34	34.261.20	2.202.84	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
562	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	72.55	37.20	OK !	0.40	1.67	42.813.07	1.856.27	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
563	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	72.55	37.20	OK !	0.40	1.67	42.813.07	914.37	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
564	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.34	3.40	1.95	1.95	72.55	37.20	OK !	0.40	1.67	42.813.07	4.672.86	OK !	46.080.00	41.472.00	OK !	17.28	63.936.00	47.952.00
565	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	3.055.34	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
566	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	3.054.51	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
567	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	11.210.99	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
568	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	8.336.91	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
569	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	8.259.48	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
570	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	11.211.54	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
571	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	1.851.42	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
572	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	1.851.54	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
573	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	6.958.85	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
574	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	8.252.10	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
575	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	8.252.10	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
576	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	6.958.85	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
577	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	3.045.51	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
578	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	8.575.69	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
579	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	9.520.93	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
580	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	3.044.84	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
581	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	11.387.90	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
582	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	11.388.41	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
583	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	1.848.58	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
584	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	10.149.91	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
585	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	10.149.91	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
586	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	1.848.77	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
587	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	8.437.25	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
588	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	8.437.41	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
589	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	1.848.28	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
590	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	1.848.43	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
591	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	6.220.79	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25
592	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.40	1.75	1.75	125.00	71.02	OK !	0.78	1.31	28.294.98	1.591.98	OK !	37.200.00	33.480.00	OK !	13.95	51.615.00	38.711.25

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan										Kontrol Kuat Tarik						
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Fraktur		
		(cm²)	(cm)	mm	λf	λr	λf < λr	Lk = K x Lo	iy = Iy / A	λy = Lk / iy	λmax = 200	λy < λmax	λc	ω	φNn	Pu	φNn > Pu	Pn = Ag x fy	φPn = 0,9 Pn	φPn > Pu	Ae = 0,75 Ag	Pn = Ae x fu	φPn = 0,75 Pn
543	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,092.91	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
544	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,333.89	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
545	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,361.40	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
546	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,342.85	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
547	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,352.41	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
548	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,035.83	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
549	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,095.70	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
550	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,352.38	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
551	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,664.40	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
552	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,775.27	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
553	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,775.41	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
554	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,353.50	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
555	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,402.81	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
556	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,402.83	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
557	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,138.04	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
558	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,534.54	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
559	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,534.11	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
560	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,338.11	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
561	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,198.81	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
562	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,198.68	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
563	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,119.30	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
564	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,119.28	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
565	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,523.47	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
566	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,415.82	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
567	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,415.85	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
568	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,523.54	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
569	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	668.32	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
570	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	668.35	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
571	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,896.65	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
572	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,786.60	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
573	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,786.62	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
574	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,596.50	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
575	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	1,174.58	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
576	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,598.44	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
577	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	8,598.47	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
578	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	1,174.56	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
579	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	7,356.39	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
580	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	1,756.40	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
581	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	403.83	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
582	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,827.16	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
583	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	6,827.91	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
584	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	823.81	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
585	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,681.80	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
586	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,982.91	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
587	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	720.94	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
588	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	720.91	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
589	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,978.24	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
590	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,930.76	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
591	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,930.73	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
592	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,878.75	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
593	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	568.81	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
594	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	556.90	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
595	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	5,873.14	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
596	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	6,526.75	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
597	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	4,526.75	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
598	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	127.00	71.02	OK !	0.79	1.31	28,294.98	5,873.15	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25
599	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.79	1.79	125.00	71.02	OK !	0.79	1.31	28,294.98	716.36	OK !	37,200.00	33,480.00	OK !	13.95	51,675.00	38,756.25



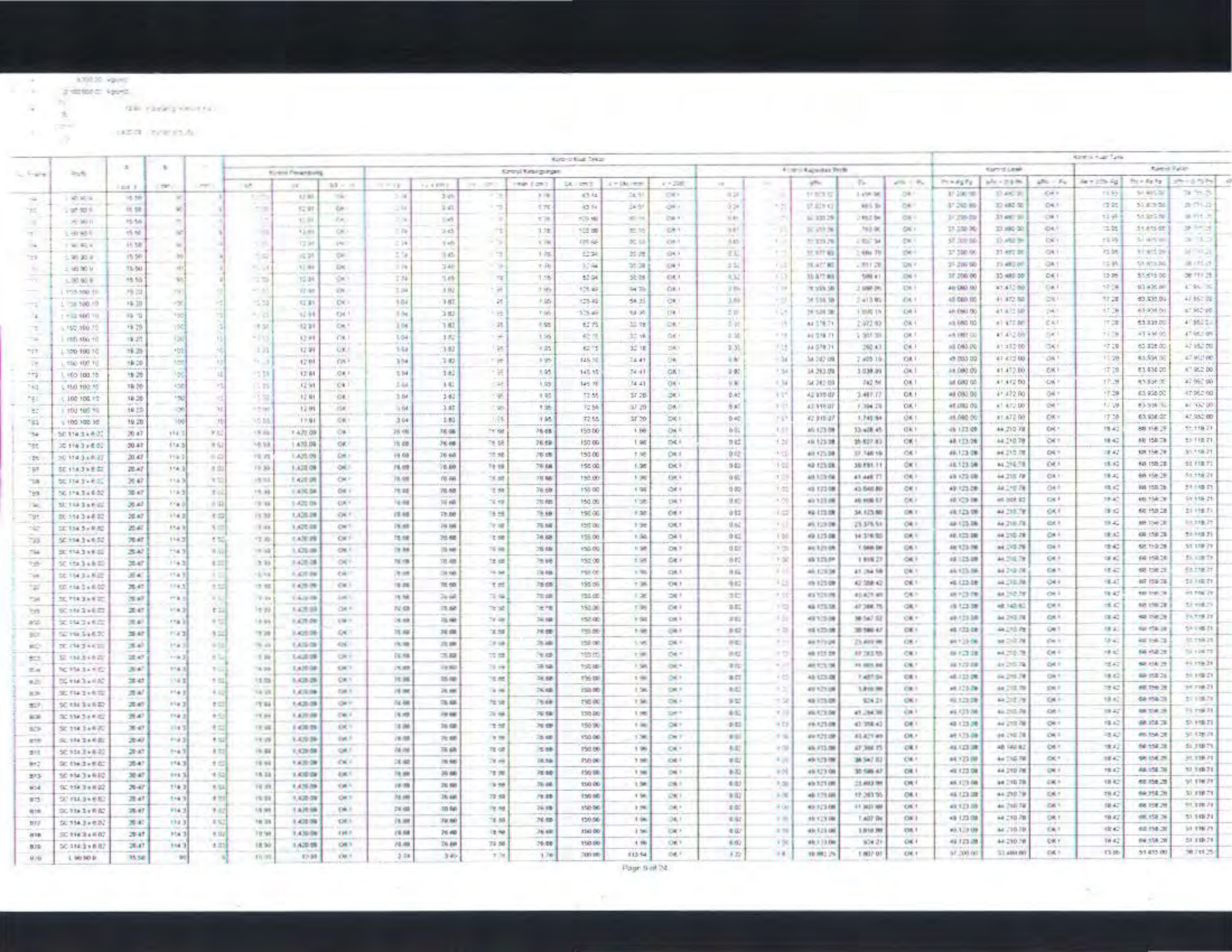
f_y = [illegible] kg/mm2

E = 2,100,000.00 kg/mm2

[illegible] = [illegible] 12.91 (Bolang tahan/ketat)

[illegible] = [illegible] 1400.79 (Bolang baikl)

No. Frame	Profil	A	B	t	Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kekuatan Profil					Kontrol Leleh			Kontrol Patah			
		(cm)	(mm)	(mm)	b/t	r/t	b/t < r/t	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
727	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9,244.96	[illegible]	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
728	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	28,264.98	[illegible]	OK !	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
729	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	94,367.15	[illegible]	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
730	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	68,622.84	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
731	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	[illegible]	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
732	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	67,345.19	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
733	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	69,971.51	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
734	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	68,571.28	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
735	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	68,447.27	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
736	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	68,295.40	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
737	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	67,818.91	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
738	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	67,858.78	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
739	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	67,730.43	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
740	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	67,730.43	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
741	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	67,730.43	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
742	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	67,730.43	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
743	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	67,730.43	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
744	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	81,769.36	OK !	86,367.15	82,048.79	OK !	32.39	119,834.42	89,875.81
745	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	80,830.43	OK !	86,367.15	82,048.79	OK !	32.39	119,834.42	89,875.81
746	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	84,436.26	OK !	86,367.15	84,439.81	OK !	32.39	119,834.42	89,875.81
747	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	72,954.36	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
748	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	75,877.14	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
749	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	75,929.62	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
750	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	75,460.34	OK !	86,367.15	77,730.43	OK !	32.39	119,834.42	89,875.81
751	SC 168.3 x 7.11	[illegible]	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	81,769.69	OK !	86,367.15	82,048.79	OK !	32.39	119,834.42	89,875.81
752	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	80,836.54	OK !	86,367.15	82,048.79	OK !	32.39	119,834.42	89,875.81
753	SC 168.3 x 7.11	35.99	168.3	7.11	23.67	1,420.09	OK !	114.09	114.09	114.09	114.09	200.32	1.19	0.91	[illegible]	[illegible]	[illegible]	88,367.15	84,436.29	OK !	86,367.15	84,439.81	OK !	32.39	119,834.42	89,875.81
754	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	34,514.43	7,357.55	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
755	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	34,514.43	7,809.42	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
756	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	34,514.43	1,119.83	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
757	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32,200.00	1,830.23	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
758	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37,200.00	488.50	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
759	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37,200.00	9,197.81	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
760	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32,423.86	2,486.43	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
761	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32,423.86	[illegible]	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
762	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32,423.86	2,454.32	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
763	[illegible]	10.00	90	5	16.00	12.91	OK !	2.74	3.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32,423.86	2,150.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25



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No. Frame	Profil	A	b	r	Kontrol Kuat Tekan															Kontrol Kuat Tarik					
					Kontrol Perlemahan			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus			
					OK																					
821	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	1,447.60	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
822	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	3,933.25	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
823	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	1,190.81	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
824	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	1,190.80	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
825	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	2,314.72	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
826	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	1,656.73	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
827	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	1,656.73	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
828	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	2,104.37	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
829	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	834.50	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
830	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	834.50	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
831	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	1,678.13	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
832	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	553.77	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
833	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	553.77	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
834	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	1,322.56	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
835	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	493.10	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
836	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	493.10	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
837	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	1,601.38	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
838	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	350.10	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
839	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	350.10	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
840	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	718.57	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
841	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	224.48	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
842	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	224.48	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
843	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	466.89	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
844	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	318.51	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
845	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	318.51	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
846	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	256.67	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
847	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	47.29	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
848	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	47.29	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
849	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	194.51	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
850	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	194.51	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
851	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	194.29	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
852	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	97.98	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
853	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	145.48	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
854	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	650.05	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
855	L 90.90.9	15.50	90	9	OK	12.91	OK	2.74	3.45	1.76	1.76	200.00	113.64	OK	1.22	1.67	19,882.25	950.09	OK	37,200.00	33,480.00	OK	13.95	51,615.00	38,711.25
856	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	299.20	99.54	OK	1.01	1.61	59,896.13	626.89	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
857	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	299.20	99.54	OK	1.01	1.61	59,896.13	11,169.92	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
858	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	299.20	99.54	OK	1.01	1.61	59,896.13	11,585.36	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
859	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	299.20	99.54	OK	1.01	1.61	59,896.13	2,111.35	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
860	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	299.20	99.54	OK	1.01	1.61	59,896.13	20,659.54	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
861	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	299.20	99.54	OK	1.01	1.61	59,896.13	14,938.63	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
862	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	270.59	92.35	OK	0.99	1.53	53,951.15	293.80	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
863	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	270.59	92.35	OK	0.99	1.53	53,951.15	17,501.31	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
864	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	270.59	92.35	OK	0.99	1.53	53,951.15	18,129.51	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
865	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	270.59	92.35	OK	0.99	1.53	53,951.15	10,089.96	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
866	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	270.59	92.35	OK	0.99	1.53	53,951.15	21,935.69	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
867	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	270.59	92.35	OK	0.99	1.53	53,951.15	10,631.63	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
868	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	256.98	85.66	OK	0.92	1.46	48,426.14	3,964.53	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
869	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	256.98	85.66	OK	0.92	1.46	48,426.14	12,432.96	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
870	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	256.98	85.66	OK	0.92	1.46	48,426.14	12,811.04	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
871	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	256.98	85.66	OK	0.92	1.46	48,426.14	6,477.36	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
872	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	256.98	85.66	OK	0.92	1.46	48,426.14	15,990.60	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
873	L 150.150.15	40.30	150	15	OK	12.91	OK	4.56	5.74	2.93	2.93	256.98	85.66	OK	0.92	1.46	48,426.14	11,868.53	OK	96,720.00	87,048.00	OK	36.27	134,199.00	100,649.25
874	L 120.120.11	25.40	120	11	OK	12.91	OK	3.66	4.62	2.35	2.35	231.37	98.48	OK	1.06	1.61	37,931.30	1,269.69	OK	60,950.00	54,864.00	OK	22.86	84,582.00	63,436.50
875	L 120.120.11	25.40	120	11	OK	12.91	OK	3.66	4.62	2.35	2.35	231.37	98.48	OK	1.06	1.61	37,931.30	13,127.34	OK	60,950.00	54,864.00	OK	22.86	84,582.00	63,436.50
876	L 120.120.11	25.40	120	11	OK	12.91	OK	3.66	4.62	2.35	2.35	231.37	98.48	OK	1.06	1.61	37,931.30	14,333.34	OK	60,950.00	54,864.00	OK	22.86	84,582.00	63,436.50
877	L 120.120.11	25.40	120	11	OK	12.91	OK	3.66	4.62	2.35	2.35	231.37	98.48	OK	1.06	1.61	37,931.30	8,722.25	OK	60,950.00	54,864.00	OK	22.86	84,582.00	63,436.50

fy = 3,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

$\lambda_r = \frac{200}{\sqrt{f_y}}$ = 129.91 (batang siku-siku)

$\lambda_r = \frac{12000}{\sqrt{f_y}}$ = 1,420.09 (batang bulat)

No. Frame	Profil	A	h	t	Kontrol Kuat Tekan										Kontrol Kuat Tarik							
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus			
		(cm²)	(mm)	(mm)	bf/t	λr	bf/t < λr	L k = 1*Ly	i (cm)	k/i (cm)	r min (cm)	Ck (cm)	L k = 1(k/i) max	k < 200	λc	w	φPn	Pn	φPn > Pu	Pn = Ag.Fy	φPn = 0,9.Pn	φPn > Pu	Ae = 90% Ag	Pn = Ae.Fu	φPn = 0,75.Pn	φPn
878	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	221.37	98.49	OK !	1.66	1.81	37,851.30	22,750.15	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
879	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	221.37	98.49	OK !	1.66	1.81	37,851.30	3,486.46	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
880	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.78	90.11	OK !	0.97	1.51	40,497.04	1,018.29	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
881	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.78	90.11	OK !	0.97	1.51	40,497.04	13,540.56	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
882	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.78	90.11	OK !	0.97	1.51	40,497.04	11,125.57	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
883	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	209.50	89.72	OK !	0.96	1.48	40,824.87	875.57	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
884	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	209.50	89.72	OK !	0.96	1.48	40,824.87	675.57	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
885	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	209.50	89.72	OK !	0.96	1.48	40,824.87	380.75	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
886	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	192.16	81.77	OK !	0.89	1.42	43,062.77	989.16	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
887	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	192.16	81.77	OK !	0.89	1.42	43,062.77	8,547.58	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
888	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	192.16	81.77	OK !	0.89	1.42	43,062.77	12,942.45	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
889	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	192.16	81.77	OK !	0.89	1.42	43,062.77	2,956.27	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
890	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	192.16	81.77	OK !	0.89	1.42	43,062.77	14,759.19	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
891	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	188.89	80.38	OK !	0.87	1.40	43,490.40	-	OK !	93,980.00	84,582.00	OK !	22.86	84,582.00	63,436.50	
892	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.56	88.49	OK !	0.95	1.48	30,999.88	999.08	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
893	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.56	88.49	OK !	0.95	1.48	30,999.88	17,166.28	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
894	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.56	88.49	OK !	0.95	1.48	30,999.88	1,834.73	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
895	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.56	88.49	OK !	0.95	1.48	30,999.88	5,368.50	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
896	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.56	88.49	OK !	0.95	1.48	30,999.88	10,936.98	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
897	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	172.56	88.49	OK !	0.95	1.48	30,999.88	2,102.87	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
898	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.30	33,327.17	3,173.31	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
899	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.30	33,327.17	16,423.41	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
900	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.30	33,327.17	8,188.56	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
901	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	311.78	159.98	OK !	1.72	3.70	12,441.86	1,709.32	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
902	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	311.78	159.98	OK !	1.72	3.70	12,441.86	2,823.59	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
903	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	311.78	159.98	OK !	1.72	3.70	12,441.86	4,004.80	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
904	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.30	33,327.17	8,267.90	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
905	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.30	33,327.17	7,227.40	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
906	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	152.94	78.43	OK !	0.84	1.30	33,327.17	3,737.88	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
907	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	133.33	68.38	OK !	0.74	1.29	35,664.47	809.22	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
908	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	133.33	68.38	OK !	0.74	1.29	35,664.47	2,215.89	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
909	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	133.33	68.38	OK !	0.74	1.29	35,664.47	188.80	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
910	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	133.33	68.38	OK !	0.74	1.29	35,664.47	4,564.75	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
911	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	133.33	68.38	OK !	0.74	1.29	35,664.47	10,908.74	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
912	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	133.33	68.38	OK !	0.74	1.29	35,664.47	3,044.86	OK !	69,120.00	61,472.00	OK !	17.28	63,936.00	47,952.00	
913	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	77,765.30	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
914	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	77,757.68	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
915	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	77,826.25	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
916	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	77,826.72	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
917	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	73,226.50	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
918	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	73,291.20	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
919	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,224.85	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
920	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,299.63	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
921	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,256.57	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
922	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	78,300.73	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
923	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	72,186.92	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
924	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	72,248.35	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
925	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	55,538.77	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
926	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	55,627.85	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
927	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	55,038.83	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
928	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	56,090.80	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
929	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	42,566.23	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
930	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	42,662.98	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
931	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	72,540.55	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
932	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	72,609.17	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
933	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,799.45	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	
934	SC 219.1 x 6.35	42.42	219.1	6.35	34.50	1,420.09	OK !	150.50	150.50	150.50	150.50	200.32	1.33	OK !	0.01	1.00	101,808.53	84,826.81	OK !	101,808.53	91,627.68	OK !	38.18	141,259.34	105,944.51	

fy = [illegible] kg/cm2

E = 2.100.000,00 kg/cm2

λi = 200 / √fy = 72,81 (batang [illegible])

λc = 2,2(k/r)√(fy/E) = 1.429,09 (batang tidak)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan									Kontrol Kuat Tarik						
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus			
		(cm²)	(mm)	(mm)	bf	λr	bf < λr	r x = r y	r z (cm) x	r η (cm)	r min (cm)	Lk (cm)	λ = Lk/r min	λ < 200	xx	xx	φPn	Pn	φPn > Pu	Pn = Ag.Fy	φPn = 0,9 Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0,75 Pn	φP
994	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	118.670,89	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
995	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	118.433,21	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
996	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	122.803,87	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
997	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	122.890,16	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
998	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	118.598,32	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
999	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	118.173,52	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1000	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	118.084,82	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1001	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	62.233,20	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1002	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	62.404,70	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1003	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	47.712,90	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1004	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	47.822,90	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1005	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	47.629,90	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1006	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	47.818,10	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1007	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	118.535,11	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1008	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	109.860,34	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1009	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	109.976,63	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1010	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	109.810,44	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1011	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	109.880,59	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1012	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	110.184,84	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1013	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	110.110,24	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1014	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	110.224,39	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1015	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	109.871,37	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1016	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	109.934,73	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1017	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	36.497,00	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1018	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	36.711,30	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1019	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	35.889,50	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1020	SC 273.0 9.27	76.77	273	9.27	29.45	1.420,09	OK !	186,90	186,90	186,90	186,90	200,32	1,07	OK !	0,01	1,00	184.238,40	35.167,30	OK !	184.238,40	165.814,56	OK !	69.09	255.630,78	191.723,09	
1021	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	20.403,80	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1022	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	21.445,29	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1023	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	42.247,52	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1024	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	39.594,36	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1025	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	37.981,40	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1026	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	42.868,50	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1027	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	21.449,29	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1028	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	20.003,56	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1029	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	44.065,77	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1030	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	29.817,61	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1031	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	33.249,88	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1032	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	38.241,27	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1033	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	290,20	99,04	OK !	1,82	1,91	58.898,13	11.578,14	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1034	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	290,20	99,04	OK !	1,82	1,91	58.898,13	14.825,57	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1035	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	290,20	99,04	OK !	1,82	1,91	58.898,13	21.709,14	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1036	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	290,20	99,04	OK !	1,82	1,91	58.898,13	11.726,09	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1037	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	290,20	99,04	OK !	1,82	1,91	58.898,13	849,83	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1038	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	290,20	99,04	OK !	1,82	1,91	58.898,13	7.963,03	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1039	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	13.716,93	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1040	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	13.051,15	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1041	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	12.955,74	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1042	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	13.316,80	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1043	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	43.486,91	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1044	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	38.303,84	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1045	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	42.225,93	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1046	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	37.865,20	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1047	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	42.414,16	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1048	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	43.244,48	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1049	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	344,46	117,56	OK !	1,27	2,05	46.298,60	41.725,60	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	
1050	L 150.150.15	40.30	150	15	10.00	12,91	OK !	4,56	5,74	2,93	2,93	360,60	123,07	OK !	1,33	2,19	44.071,56	37.382,22	OK !	96.720,00	87.048,00	OK !	36,27	134.199,00	100.649,25	

fy = 2,400.00 kg/cm2

fu = 3,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

$\lambda_r = \frac{200}{\sqrt{fy}}$ = 12.91 (batang siku-siku)

$\lambda_r = \frac{22000}{\sqrt{fy}}$ = 449.09 (batang bulat)

No. Frame	Profil	A	b	t	Kontrol Tekan											Kontrol Kuat Tarik						
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Patah			
		(cm²)	(mm)	(mm)	bf/t	λr	bf/t < λr	lx = ly	lc (cm)	iy (cm)	imin (cm)	ix (cm)	λ = Lk/i min	λ < 200	λc	ω	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0,9.Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0,75.Pn	φPn
1051	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	5.69	17,012.41	1,575.07	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1052	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	5.69	17,012.41	4,490.23	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1053	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	5.69	17,012.41	3,748.70	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1054	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	5.69	17,012.41	1,092.05	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1055	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	5.69	17,012.41	5,745.22	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1056	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	580.39	198.09	OK !	2.13	5.69	17,012.41	5,927.96	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1057	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.60	123.07	OK !	1.33	2.19	44,071.56	9,128.82	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1058	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	7,153.99	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1059	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.60	123.07	OK !	1.33	2.19	44,071.56	5,002.47	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1060	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	825.18	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1061	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.60	123.07	OK !	1.33	2.19	44,071.56	13,193.93	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1062	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.60	123.07	OK !	1.33	2.19	44,071.56	13,849.24	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1063	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	7,574.64	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1064	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	7,237.05	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1065	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.60	123.07	OK !	1.33	2.19	44,071.56	4,474.92	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1066	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.60	123.07	OK !	1.33	2.19	44,071.56	9,501.15	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1067	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	624.71	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1068	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	7,143.32	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1069	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19,567.30	5,784.17	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1070	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19,567.30	6,572.54	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1071	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19,567.30	287.47	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1072	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19,567.30	6,173.89	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1073	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19,567.30	8,906.70	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1074	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	541.18	184.70	OK !	1.99	4.94	19,567.30	794.99	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1075	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	0.99	1.53	63,161.15	726.54	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1076	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	0.99	1.53	63,161.15	8,414.74	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1077	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	0.99	1.53	63,161.15	10,097.75	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1078	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	0.99	1.53	63,161.15	18,292.63	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1079	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	0.99	1.53	63,161.15	18,209.11	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1080	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	270.59	92.35	OK !	0.99	1.53	63,161.15	19,638.47	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1081	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	7,000.43	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1082	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	5,517.02	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1083	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	11,230.40	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1084	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	212.57	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1085	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	6,698.34	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1086	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	8,570.79	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1087	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	11,336.65	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1088	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	469.07	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1089	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	13,105.84	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1090	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	14,553.14	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1091	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	11,759.79	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1092	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	11,341.62	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1093	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	5,374.44	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1094	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	992.70	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1095	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	1,128.08	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1096	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	9,858.41	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1097	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	42,470.74	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1098	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	42,541.31	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1099	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	47,664.43	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1100	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	41,373.28	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1101	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	45,099.99	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1102	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	47,091.92	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1103	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	41,934.17	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1104	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	41,854.28	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1105	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	9,263.73	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1106	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	4,235.87	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	
1107	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	1,768.40	OK !	96,720.00	87,048.00	OK !	34.27	134,199.00	100,649.25	

fy = 3.700,00 kg/cm2

E = 2.100.000,00 kg/cm2

λc = 200/√fy = 12,85 (batang siku-siku)

λc = 1.200/√fy = 1.429,06 (batang bulat)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan														Kontrol Kuat Tarik			
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
		(cm²)	(mm)	(mm)	bf/t	bf/2t	bf/t < λr	kx = 1/y	ry/2 (cm)	ry (cm)	l tekan (cm)	lk (cm)	λ = lk/i min	λ < 200	λc	n	ωPn	Pu	ϕPn > Pu	Pn = Ag.Fy	ϕPn = 0,9 Pn	ϕPn > Pu	An = (90% Ag	Pn = An.Fu	ϕPn = 0,75 Pn
1109	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	1,605.00	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1110	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.34	40,290.44	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1111	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	41,607.00	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1112	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	42,193.99	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1113	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.34	40,180.92	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1114	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	43,333.92	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1115	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	42,783.43	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1116	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.34	51,588.09	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1117	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.34	44,979.52	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1118	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	881.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1119	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	694.38	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1120	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	270.38	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1121	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	271.32	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1122	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	439.51	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1123	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	688.52	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1124	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	1,455.34	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1125	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	1,711.63	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1126	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	1,450.38	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1127	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	215.90	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1128	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.80	123.07	OK !	1.33	2.19	44,071.56	113.58	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1129	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	231.19	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1130	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.80	123.07	OK !	1.33	2.19	44,071.56	118.86	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1131	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	1,716.83	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1132	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	677.56	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1133	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.80	123.07	OK !	1.33	2.19	44,071.56	324.85	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1134	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	806.03	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1135	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.80	123.07	OK !	1.33	2.19	44,071.56	678.38	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1136	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	685.42	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1137	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	810.53	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1138	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.80	123.07	OK !	1.33	2.19	44,071.56	331.23	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1139	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	360.80	123.07	OK !	1.33	2.19	44,071.56	678.82	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1140	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	252.72	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1141	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	290.20	164.88	OK !	1.78	3.94	9,443.71	264.95	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1142	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	578.83	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1143	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	567.86	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1144	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	271.56	153.74	OK !	1.66	3.42	10,861.95	260.39	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1145	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	323.92	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1146	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	252.25	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1147	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	327.68	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1148	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	1,388.32	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1149	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	1,983.64	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1150	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	2,359.34	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1151	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.34	791.47	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1152	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.34	628.48	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1153	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	865.09	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1154	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	487.70	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1155	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	254.46	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1156	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	232.40	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1157	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	155.23	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1158	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	156.03	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1159	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	645.02	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1160	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	804.73	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1161	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	491.33	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1162	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	344.46	117.56	OK !	1.27	2.00	48,298.60	888.41	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25
1163	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	328.18	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1164	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	311.86	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1165	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	270.56	153.74	OK !	1.66	3.42	10,861.95	2,218.63	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25

fy = 2,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

$\frac{240}{\sqrt{fy}}$ = 133 (batang siku-siku)

$\frac{22000}{\sqrt{fy}}$ = 1,426.09 (batang bulat)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan													Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil				Kontrol Leleh			Kontrol Patah		
		(cm2)	(mm)	(mm)	bf	2t	bf < 2t	Lk = ly	ix (cm)	iy (cm)	Ix = Iy (cm)	Imin (cm)	Lk (cm)	Lk = Lk/Imin	λ < 200	ns	ni	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0.9.Pn	φPn > Pu	Ae = 90% Ag	Pn = Ae.Fu	φPn = 0.75.Pn	φPn
1166	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	47,027.12	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1167	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	55,980.83	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1168	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	8,683.34	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1169	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	9,856.77	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1170	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	43,361.81	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1171	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	40,092.55	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1172	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	47,035.13	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1173	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	50,742.95	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1174	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	9,002.86	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1175	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	8,476.50	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1176	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	48,581.85	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1177	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	46,171.66	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1178	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	66,426.14	12,930.48	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1179	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	66,426.14	9,251.50	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1180	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	66,426.14	10,622.51	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1181	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	66,426.14	15,727.20	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1182	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	66,426.14	12,278.06	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1183	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	250.98	85.66	OK !	0.92	1.46	66,426.14	2,687.60	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1185	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12,625.42	639.36	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	OK
1186	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12,625.42	305.39	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	OK
1187	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	8,113.25	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1188	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	8,233.11	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1189	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	11,146.80	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1190	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	13,484.31	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1191	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12,625.42	302.36	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	OK
1192	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	8,713.03	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1193	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	4,445.16	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1194	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	8,050.35	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1195	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	2,863.85	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1196	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12,625.42	351.76	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	OK
1197	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12,625.42	667.89	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	OK
1198	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	10,685.79	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1199	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	11,729.57	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1200	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12,625.42	382.26	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	OK
1201	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	8,384.44	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1202	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	2,098.84	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1203	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	34,080.43	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1204	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	29,519.13	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1205	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	50,258.44	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1206	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	15,564.41	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1207	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	18,395.25	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1208	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	50,980.22	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1209	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	44,976.28	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1210	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	45,945.56	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1211	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	45,949.56	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1212	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	16,818.21	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1213	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	16,417.01	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1214	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	47,619.82	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1215	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22,744.13	4,987.82	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1216	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22,744.13	958.12	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1217	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22,744.13	5,088.28	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1218	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22,744.13	5,340.25	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1219	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22,744.13	383.49	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1220	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	501.96	171.32	OK !	1.84	4.25	22,744.13	5,848.48	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1221	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	931.58	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1222	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	56,038.03	742.73	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK
1223	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53,042.31	634.93	OK !	96,720.00	87,048.00	OK !	36.27	134,199.00	100,649.25	OK

E = 2.100.000,00 kg/cm2

$\sigma = \frac{200}{\sqrt{\lambda}}$ = 12,91 (batang siku-siku)

$\sigma = \frac{\pi^2 E}{\lambda^2}$ = 1.426,99 (batang bulat)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan															Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil						Kontrol Leleh			Kontrol Patah			
		(cm²)	(mm)	(mm)	bf/t	bf	bf/t < bf	rx = Lkx	ry = Lky	rmin = Lkmin	rmin = Lkmin	Lk (cm)	λ = Lk/i min	λ < 200	Nn	w	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0,9.Pn	φPn > Pu	An = 85%.Ag	Pn = An.Fu	φPn = 0,75 Pn	φ
1224	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	848.18	OK !	96.720,00	87.048,00	OK !	34.27	134.199,00	100.649,25	
1225	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	50.539,03	715,29	OK !	96.720,00	87.048,00	OK !	34.27	134.199,00	100.649,25	
1226	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	50.539,03	848,82	OK !	96.720,00	87.048,00	OK !	34.27	134.199,00	100.649,25	
1227	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	957,98	OK !	96.720,00	87.048,00	OK !	34.27	134.199,00	100.649,25	
1228	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	628,51	OK !	96.720,00	87.048,00	OK !	34.27	134.199,00	100.649,25	
1229	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	50.539,03	238,34	OK !	96.720,00	87.048,00	OK !	34.27	134.199,00	100.649,25	
1230	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	313.37	106.95	OK !	1.15	1.73	50.539,03	325,28	OK !	96.720,00	87.048,00	OK !	34.27	134.199,00	100.649,25	
1231	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	286,29	OK !	96.720,00	87.048,00	OK !	34.27	134.199,00	100.649,25	
1232	L 150.150.15	40.30	150	15	10.00	12.91	OK !	4.56	5.74	2.93	2.93	328.70	112.18	OK !	1.21	1.82	53.042,31	201,57	OK !	96.720,00	87.048,00	OK !	34.27	134.199,00	100.649,25	
1233	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12.625,42	2.150,31	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1234	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12.625,42	314,99	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1235	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12.625,42	378,43	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1236	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12.625,42	2.179,11	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1237	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12.625,42	2.540,70	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1238	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	250.98	142.60	OK !	1.54	2.95	12.625,42	2.509,97	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1240	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856,00	324,63	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1241	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.661,09	3.486,03	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1242	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.661,09	6.954,55	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1243	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856,00	366,32	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1244	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	9.473,34	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1245	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	757,38	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1246	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856,00	670,80	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1247	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.661,09	15.670,91	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1248	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.661,09	11.630,23	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1249	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856,00	876,97	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1250	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	8.606,31	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1251	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	8.098,48	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1252	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856,00	307,77	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1253	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.661,09	8.770,58	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1254	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.661,09	5.736,35	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1255	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	231.37	131.46	OK !	1.42	2.50	14.856,00	365,14	OK !	37.200,00	33.480,00	OK !	13.95	51.615,00	38.711,25	
1256	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	491,22	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1257	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	9.841,41	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1258	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.58	2.35	662.75	196.91	OK !	2.12	5.82	10.950,62	1.832,71	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1259	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.58	2.35	662.75	196.91	OK !	2.12	5.82	10.950,62	8.873,43	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1260	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	662.75	196.91	OK !	2.12	5.82	10.950,62	4.791,79	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1261	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	662.75	196.91	OK !	2.12	5.82	10.950,62	183,87	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1262	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	662.75	196.91	OK !	2.12	5.82	10.950,62	5.618,51	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1263	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	662.75	196.91	OK !	2.12	5.82	10.950,62	8.255,28	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1264	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	231.37	98.46	OK !	1.06	1.81	37.831,36	16.315,03	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1265	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	231.37	98.46	OK !	1.06	1.81	37.831,36	9.115,59	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1266	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	231.37	98.46	OK !	1.06	1.81	37.831,36	13.884,96	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1267	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	231.37	98.46	OK !	1.06	1.81	37.831,36	801,18	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1268	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	231.37	98.46	OK !	1.06	1.81	37.831,36	14.911,82	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1269	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	231.37	98.46	OK !	1.06	1.81	37.831,36	4.831,69	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1270	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	8.462,81	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1271	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	1.620,85	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1272	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	1.051,78	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1273	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	5.800,49	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1274	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	21.727,19	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1275	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	20.678,26	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1276	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	21.251,21	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1277	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	22.381,78	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1278	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	21.702,77	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1279	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	20.153,28	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1280	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26.099,93	22.113,55	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	
1281	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23.661,09	10.861,41	OK !	60.960,00	54.864,00	OK !	22.86	84.582,00	63.436,50	

fy = 5.700,00 kg/cm2

E = 2.100.000,00 kg/cm2

λc = (250/√fy) × 1/π √(E/fy) 12,91 (batang siku-siku)

λc = (2.0xx/√fy) × 1/π √(E/fy) 1.426,09 (batang bulat)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan															Kontrol Kuat Tarik						
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Patah			
		(cm²)	(mm)	(mm)	bf/t	15/t	bf/t < 15/t	lx = ly	Lz (cm)	Iy (cm)	Imin (cm)	Lk (cm)	λ = Lk/i min	λ < 200	λc	ω	φPn	Pn	φPn > Pu	Pn = Ag.Fy	φPn = 0,9 Pn	φPn > Pu	Ae = 90% Ag	Pn = Ae.Fu	φPn = 0,75.Pn	
1282	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	1,486.31	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1283	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	2,362.16	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1284	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	11,699.23	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1285	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	18,488.74	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1286	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	18,524.93	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1287	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	18,244.23	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1288	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	17,237.62	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1289	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	16,551.66	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1290	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	16,383.10	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1291	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	17,331.65	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1292	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	17,383.02	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1293	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	22,541.11	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1294	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	887.51	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1295	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	871.05	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1296	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	800.73	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1297	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	1,048.28	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1298	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	291.28	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1299	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	298.40	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1300	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	273.49	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1301	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	243.82	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1302	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	760.90	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1303	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	1,014.80	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1304	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	660.52	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1305	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	313.37	133.35	OK !	1.44	2.58	23,661.09	877.88	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1306	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14,856.00	409.05	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1307	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14,856.00	2,366.29	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1308	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14,856.00	2,784.97	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1309	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14,856.00	2,774.83	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1310	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14,856.00	2,304.91	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1311	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	231.37	131.48	OK !	1.42	2.50	14,856.00	417.11	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1312	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	211.78	120.32	OK !	1.30	2.10	17,734.48	348.87	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1313	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	11,503.48	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1314	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	363.40	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1315	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	211.78	120.32	OK !	1.30	2.10	17,734.48	462.26	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1316	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	7,714.80	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1317	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	884.30	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1318	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	211.78	120.32	OK !	1.30	2.10	17,734.48	445.25	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1319	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	462.05	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1320	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	7,778.06	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1321	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	211.78	120.32	OK !	1.30	2.10	17,734.48	330.73	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1322	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	319.79	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1323	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	8,182.12	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1324	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	211.78	120.32	OK !	1.30	2.10	17,734.48	751.58	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1325	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	856.16	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1326	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	28,059.93	16,565.42	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1327	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.46	1.78	1.78	211.78	120.32	OK !	1.30	2.10	17,734.48	706.87	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1328	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	8,001.95	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1329	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	8,017.41	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1330	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.78	90.11	OK !	0.97	1.51	40,497.04	23,668.37	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1331	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.78	90.11	OK !	0.97	1.51	40,497.04	10,644.83	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1332	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.78	90.11	OK !	0.97	1.51	40,497.04	19,154.29	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1333	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.78	90.11	OK !	0.97	1.51	40,497.04	2,122.88	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1334	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.78	90.11	OK !	0.97	1.51	40,497.04	11,752.75	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1335	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	211.78	90.11	OK !	0.97	1.51	40,497.04	12,215.90	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1336	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	180.23	OK !	1.94	4.71	12,953.02	3,666.12	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1337	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	180.23	OK !	1.94	4.71	12,953.02	2,850.94	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1338	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	425.53	180.23	OK !	1.94	4.71	12,953.02	3,183.90	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	

fy = 3,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

w = 250/fy = 12.91 (Batang siku-siku)

w = 2350/fy = 1,430.09 (Batang bulat)

No. Frame	Profil	A	b	t	Kontrol Tekan										Kontrol Kuat Tarik							
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Fraktur			
		(cm²)	(mm)	(mm)	bf/t	15/fy	bf/t < 15/fy	lx = Lkx/ix	ly = Lky/iy	lmax = Lmax/imin	Sk = Lmax/imin	λ = lx/lc atau ly/lc	λ < 200	Ag	Ae	φPn	Pn	φPn > Pu	Pn = Ag.fy	φPn = 0.9.Pn	φPn > Pu	Ae = 85%.Ag	Pn = Ae.fu	φPn = 0.75.Pn	φPn
1339	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	190.23	OK !	1.84	4.71	12,953.62	5,092.75	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1340	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	190.23	OK !	1.84	4.71	12,953.62	5,251.64	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1341	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	423.53	190.23	OK !	1.84	4.71	12,953.62	1,938.66	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1342	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	13,647.66	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1343	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	7,189.99	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1344	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	6,453.76	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1345	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	14,677.71	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1346	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	20,999.72	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1347	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	21,025.28	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1348	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	24,182.38	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1349	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	24,333.80	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1350	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	6,847.75	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1351	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	6,540.47	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1352	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	7,648.21	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1353	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	15,239.49	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1354	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	23,277.74	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1355	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	22,028.11	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1356	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	23,099.84	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1357	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	28,366.81	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1358	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	24,295.25	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1359	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	20,904.59	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1360	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	10,981.82	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1361	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	17,681.14	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1362	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	16,999.23	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1363	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	25,951.66	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1365	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	25,058.22	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1366	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	22,992.27	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1367	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	1,006.18	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1368	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	1,289.79	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1369	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	865.28	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1370	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	1,139.58	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1371	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	285.41	121.45	OK !	1.33	2.14	28,523.29	888.78	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1372	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	1,321.08	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1373	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	887.87	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1374	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	1,167.27	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1375	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	362.98	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1376	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	962.67	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1377	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	340.84	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1378	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	298.54	127.04	OK !	1.37	2.34	26,999.93	277.01	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1379	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.10	17,734.48	562.72	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1380	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.10	17,734.48	2,752.55	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1381	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.10	17,734.48	3,189.36	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1382	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.10	17,734.48	3,125.32	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1383	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.10	17,734.48	2,552.75	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1384	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	211.76	120.32	OK !	1.30	2.10	17,734.48	370.13	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1385	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	108.18	OK !	1.18	1.78	21,134.77	1,849.98	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1386	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	282.58	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1387	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	1,895.27	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1388	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	108.18	OK !	1.18	1.78	21,134.77	367.17	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1389	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	8,717.16	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1390	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	9,999.03	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1391	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	2,871.45	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1392	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	3,319.36	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1393	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	903.54	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1394	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	1,298.24	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	
1395	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	182.16	108.18	OK !	1.18	1.78	21,134.77	276.25	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	
1396	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	294.29	120.97	OK !	1.30	2.12	28,748.70	2,508.27	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	

fy = 3,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

ix = 2cm / √(fy/E) = 12.91 (batang siku-siku)

iy = 2.04cm / √(fy/E) = 1,439.05 (batang bulat)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan														Kontrol Kuat Tarik						
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus			
		(cm2)	(mm)	(mm)	bf	ar	bf/t = ar	cx = ly	rx (cm)	ry (cm)	rmin (cm)	Lk (cm)	L = Lk/rmin	L = 200	λq	w	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0,9.Pn	φPn > Pu	Ae = 85%.Ag	Pn = Ae.Fu	φPn = 0,75.Pn	φPn
1397	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	7,907.11	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1398	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	192.16	109.18	OK !	1.18	1.78	21,134.77	511.14	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	O
1399	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	1,183.37	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1400	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	7,781.56	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1401	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	1,056.04	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1402	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	1,305.09	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1403	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	1,025.18	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1404	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	1,318.95	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1405	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	192.16	109.18	OK !	1.18	1.78	21,134.77	857.73	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	O
1406	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	1,108.88	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1407	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	13,213.02	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1408	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	192.16	109.18	OK !	1.18	1.78	21,134.77	780.26	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	O
1409	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	8,680.37	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1410	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	5,766.36	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1411	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	89.89	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1412	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	617.53	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1413	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	157.50	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1414	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	389.34	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1415	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	3.30	188.89	80.58	OK !	0.87	1.40	43,490.40	999.30	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1416	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	192.16	81.77	OK !	0.88	1.42	43,062.77	10,066.20	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1417	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	3.30	188.89	80.58	OK !	0.87	1.40	43,490.40	724.20	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1418	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	192.16	81.77	OK !	0.88	1.42	43,062.77	10,066.20	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1419	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	192.16	81.77	OK !	0.88	1.42	43,062.77	10,066.20	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1420	L 125.125.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	192.16	81.77	OK !	0.88	1.42	43,062.77	10,277.31	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1422	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	192.16	109.18	OK !	1.18	1.78	21,134.77	857.73	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	O
1423	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	192.16	109.18	OK !	1.18	1.78	21,134.77	3,857.01	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	O
1424	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	192.16	109.18	OK !	1.18	1.78	21,134.77	3,410.87	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	O
1425	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	192.16	109.18	OK !	1.18	1.78	21,134.77	3,143.86	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	O
1426	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	192.16	109.18	OK !	1.18	1.78	21,134.77	2,838.82	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	O
1427	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	192.16	109.18	OK !	1.18	1.78	21,134.77	417.79	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25	O
1428	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	384.31	163.54	OK !	1.76	3.89	15,731.38	13,279.68	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1429	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	384.31	163.54	OK !	1.76	3.89	15,731.38	1,281.97	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1430	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	384.31	163.54	OK !	1.76	3.89	15,731.38	7,427.31	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1431	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	384.31	163.54	OK !	1.76	3.89	15,731.38	271.12	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1432	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	384.31	163.54	OK !	1.76	3.89	15,731.38	4,623.12	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1433	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	384.31	163.54	OK !	1.76	3.89	15,731.38	5,218.64	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1434	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	8,555.66	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1435	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	268.52	114.28	OK !	1.23	1.89	32,224.18	410.89	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1436	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	8,884.42	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1437	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	2,625.55	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1438	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	8,819.72	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1439	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	27,212.50	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1440	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	29,853.70	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1441	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	27,885.31	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1442	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	28,118.33	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1443	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	28,882.81	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1444	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	25,422.02	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1445	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	270.71	115.20	OK !	1.24	1.92	31,704.79	3,659.85	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1446	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	21,263.54	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1447	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	20,468.87	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1448	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	21,627.90	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1449	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	27,217.42	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1450	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	22,404.04	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1451	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	25,311.35	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1452	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	24,484.84	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1453	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	24,388.43	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O
1454	L 120.120.11	25.40	120	11	10.91	12.91	OK !	3.66	4.62	2.35	2.35	284.29	120.97	OK !	1.30	2.12	28,748.70	7,227.91	OK !	60,960.00	54,864.00	OK !	22.86	84,582.00	63,436.50	O

E = 2.100.000,00 kg/cm2

r_y = $\frac{20}{\sqrt{5}}$ = 12,91 (batang siku-siku)

r_x = $\frac{22,5}{\sqrt{5}}$ = 14,39 (batang bulat)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan														Kontrol Kuat Tarik							
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil						Kontrol Leleh				Kontrol Putus			
		(cm²)	(mm)	(mm)	bf	λr	bf < λr	lx = ly	lz (cm)	iy (cm)	imin (cm)	Ck (cm)	λ = Lk/imin	λ < 200	λc	w	ωPn	Pu	ωPn > Pu	Pn = Ag.Fy	ωPn = 0,9 Pn	ωPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	ωPn = 0,75 Pn	ωPn
1455	L 120.120.11	25,40	120	11	10,91	12,91	OK !	3,69	4,62	2,35	2,35	284,29	120,97	OK !	1,30	2,12	28.748,70	363,77	OK !	80.990,00	54.884,00	OK !	22,86	84.582,00	63.436,50	
1456	L 120.120.11	25,40	120	11	10,91	12,91	OK !	3,69	4,62	2,35	2,35	284,29	120,97	OK !	1,30	2,12	28.748,70	3.285,99	OK !	80.990,00	54.884,00	OK !	22,86	84.582,00	63.436,50	
1457	L 120.120.11	25,40	120	11	10,91	12,91	OK !	3,69	4,62	2,35	2,35	284,29	120,97	OK !	1,30	2,12	28.748,70	3.448,50	OK !	80.990,00	54.884,00	OK !	22,86	84.582,00	63.436,50	
1458	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	172,55	98,49	OK !	0,95	1,49	30.989,88	4.207,87	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1459	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	172,55	98,49	OK !	0,95	1,49	30.989,88	8.998,47	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1460	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	172,55	98,49	OK !	0,95	1,49	30.989,88	12.589,75	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1461	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	172,55	98,49	OK !	0,95	1,49	30.989,88	280,99	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1462	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	345,10	176,97	OK !	1,81	4,54	10.154,40	165,48	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1463	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	345,10	176,97	OK !	1,81	4,54	10.154,40	3.232,96	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1464	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	345,10	176,97	OK !	1,81	4,54	10.154,40	701,37	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1465	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	345,10	176,97	OK !	1,81	4,54	10.154,40	2.677,98	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1466	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	345,10	176,97	OK !	1,81	4,54	10.154,40	5.418,56	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1467	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	345,10	176,97	OK !	1,81	4,54	10.154,40	5.324,96	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1468	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	362,96	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1470	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,74	16.501,60	161,13	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1472	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,74	16.501,60	5.951,29	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1473	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	368,55	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1474	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	13.124,68	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1475	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	1.777,32	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1476	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	326,88	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1477	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	4.521,78	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1478	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	4.091,43	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1479	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	411,25	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1480	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	8.075,48	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1481	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	212,24	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1482	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	745,79	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1483	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	10.867,98	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1484	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	7.738,40	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1485	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	172,55	98,49	OK !	0,95	1,49	30.989,88	7.923,38	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1486	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	172,55	98,49	OK !	0,95	1,49	30.989,88	7.958,23	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1487	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	781,49	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1488	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	9.790,75	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1489	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	6.023,80	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1490	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	985,19	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1491	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	1.291,43	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1492	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	1.208,06	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1493	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	1.557,39	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1494	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	207,79	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1495	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	525,85	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1496	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	109,70	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1497	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	845,10	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1498	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	1.175,73	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1499	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	957,80	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1500	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	1.109,01	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1501	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	714,71	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1502	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	507,06	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1503	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	2.492,00	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1504	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	2.955,69	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1505	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	3.212,76	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1506	L 90.90.9	15,50	90	9	10,00	12,91	OK !	2,74	3,45	1,76	1,76	172,55	98,04	OK !	1,58	1,80	23.225,34	424,89	OK !	37.200,00	33.480,00	OK !	13,95	51.615,00	38.711,25	
1507	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	12.491,88	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1508	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	12.384,19	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1509	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	9.777,27	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1510	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	9.105,52	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1512	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	12.259,52	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1513	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	270,71	138,83	OK !	1,46	2,79	16.501,60	13.802,35	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	
1514	L 100.100.10	19,20	100	10	10,00	12,91	OK !	3,84	3,82	1,95	1,95	257,91	132,26	OK !	1,42	2,53	18.180,26	18.178,42	OK !	48.000,00	41.472,00	OK !	17,28	63.936,00	47.952,00	

fy = 3,700.00 kg/cm2

E = 2,100,000.00 kg/cm2

$\frac{200}{\sqrt{fy}}$ = 12.91 (batang siku-siku)

$\frac{2250}{\sqrt{fy}}$ = 1,420.09 (batang bulat)

No. Frame	Profil	A	b	t	Kontrol Kuat Tekan														Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan						Kontrol Kapasitas Profil					Kontrol Leleh			Kontrol Putus		
		(cm²)	(mm)	(mm)	bf/t	λr	bf/t < λr	rx = ry	ry (cm)	iy (cm)	rmin (cm)	Lk / rmin)	Lk < Lkr / rmin	λ = 200	ω	ns	φPn	Pu	φPn > Pu	Pn = Ag.Fy	φPn = 0.9.Pn	φPn > Pu	Ae = 85% Ag	Pn = Ae.Fu	φPn = 0.75.Pn
1515	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.89	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	9,264.73	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1516	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	14,071.47	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1517	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.93	OK !	1.49	2.79	16,501.93	12,138.92	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1518	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.93	OK !	1.49	2.79	16,501.93	12,065.82	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1519	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	14,648.91	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1520	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	14,348.54	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1521	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.93	OK !	1.49	2.79	16,501.93	12,429.79	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1522	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.93	OK !	1.49	2.79	16,501.93	11,720.32	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1523	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	7,457.56	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1524	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	4,417.88	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1525	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.93	OK !	1.49	2.79	16,501.93	2,485.24	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1526	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.93	OK !	1.49	2.79	16,501.93	3,051.13	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1527	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	10,851.92	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1528	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	5,907.58	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1529	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.93	OK !	1.49	2.79	16,501.93	8,209.39	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1530	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	270.71	138.93	OK !	1.49	2.79	16,501.93	15,010.61	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1531	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	172.55	88.94	OK !	1.06	1.90	25,225.94	2,766.34	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1532	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	14,801.45	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1533	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.94	OK !	0.94	1.47	25,315.91	348.77	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1534	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	9,338.26	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1535	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	3,509.70	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1536	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.94	OK !	0.94	1.47	25,315.91	380.73	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1537	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	2,870.88	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1538	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	5,921.34	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1539	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.94	OK !	0.94	1.47	25,315.91	381.71	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1540	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	5,509.47	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1541	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	5,978.49	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1542	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.94	OK !	0.94	1.47	25,315.91	342.85	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1543	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	4,958.92	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1544	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	2,886.97	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1545	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.94	OK !	0.94	1.47	25,315.91	708.23	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1546	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	11,533.45	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1547	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	6,773.76	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1548	L 90.90.9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.78	1.78	152.94	88.94	OK !	0.94	1.47	25,315.91	726.19	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1549	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	9,264.05	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1550	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	13,824.48	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1551	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	4,067.90	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1552	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	1,807.96	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1553	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	4,136.45	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1554	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	9,658.67	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1555	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	16,620.35	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1556	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	15,934.80	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1557	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	16,649.98	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1558	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	17,814.19	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1559	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	16,137.47	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1560	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	15,446.82	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1561	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	17,053.46	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1562	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.18	OK !	1.36	2.31	19,981.94	16,990.35	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1563	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	13,786.48	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1564	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	13,623.51	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1565	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	15,285.56	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1566	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	13,756.19	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1567	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	13,436.32	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1568	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	14,123.89	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1569	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	14,872.25	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1570	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	14,437.29	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1571	L 100.100.10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	257.91	132.29	OK !	1.42	2.53	18,180.28	8,194.76	OK !	46,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00

| | | |

σ = 2,700.00 kg/cm2

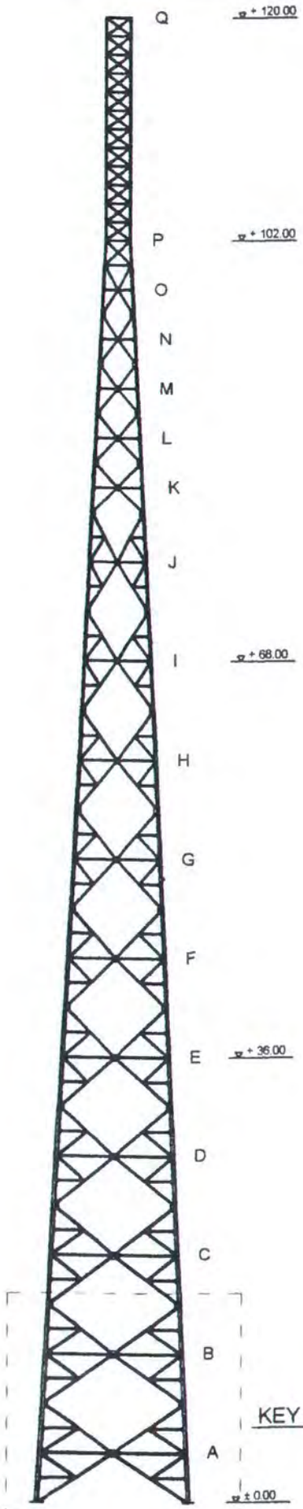
E = 2,100,000.00 kg/cm2

$\lambda_r = \frac{500}{\sqrt{fy}}$ = 12.81 (batang siku-siku)

$\lambda_r = \frac{1250}{\sqrt{fy}}$ = 1420.09 (batang bulat)

No. Frame	Profil	A	b	r	Kontrol Kuat Tekan														Kontrol Kuat Tarik					
					Kontrol Penampang			Kontrol Kelangsingan							Kontrol Kapasitas Profil						Kontrol Leleh			Kontrol Patah		
		(cm2)	(mm)	(mm)	bf/t	15/f	bf/t < 15/f	lx = ly	lx (cm)	ly (cm)	rmin (cm)	Ck (cm)	Lx = lkx/rmin	Lx < 200	vx	vn	φPn	Pn	φPn > Pu	Pn = Ag.Fy	φPn = 0,9 Pn	φPn > Pu	An = 90%.Ag	Pn = An.Fu	φPn = 0,75.Pn
1629	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	10,784.99	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1630	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	9,590.11	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1631	L 90 90 9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	133.33	75.76	OK !	0.82	1.38	27,406.46	568.36	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1632	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	2,708.67	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1633	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	8,404.95	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1634	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	8,404.95	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1635	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	8,404.95	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1636	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	8,404.95	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1637	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	8,404.95	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1638	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	8,404.95	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1639	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	8,404.95	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1640	L 90 90 9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	133.33	75.76	OK !	0.82	1.38	27,406.46	2,286.84	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1641	L 90 90 9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	133.33	75.76	OK !	0.82	1.38	27,406.46	2,711.75	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1642	L 90 90 9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	133.33	75.76	OK !	0.82	1.38	27,406.46	426.69	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1643	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	1,271.15	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1644	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	625.86	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1645	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	1,540.83	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1646	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	1,279.83	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1647	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	1,300.94	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1648	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	1,605.25	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1649	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	791.16	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1650	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	1,151.00	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1651	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	277.82	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1652	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	376.13	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1653	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	352.78	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1654	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	326.71	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1655	L 90 90 9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	133.33	75.76	OK !	0.82	1.38	27,406.46	375.27	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1656	L 90 90 9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	133.33	75.76	OK !	0.82	1.38	27,406.46	2,693.25	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1657	L 90 90 9	15.50	90	9	10.00	12.91	OK !	2.74	3.45	1.76	1.76	133.33	75.76	OK !	0.82	1.38	27,406.46	2,913.95	OK !	37,200.00	33,480.00	OK !	13.95	51,615.00	38,711.25
1658	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	17,329.94	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1659	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	15,468.66	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1660	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	15,264.73	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1661	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	16,511.27	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1662	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	14,992.49	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1663	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	246.01	126.16	OK !	1.30	2.11	19,981.94	5,524.10	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1664	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	18,865.20	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1665	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	9,252.41	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1666	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	8,297.19	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1667	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	19,398.93	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1668	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	17,391.46	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00
1669	L 100 100 10	19.20	100	10	10.00	12.91	OK !	3.04	3.82	1.95	1.95	235.14	120.59	OK !	1.30	2.11	21,871.58	10,629.78	OK !	48,080.00	41,472.00	OK !	17.28	63,936.00	47,952.00

GAMBAR



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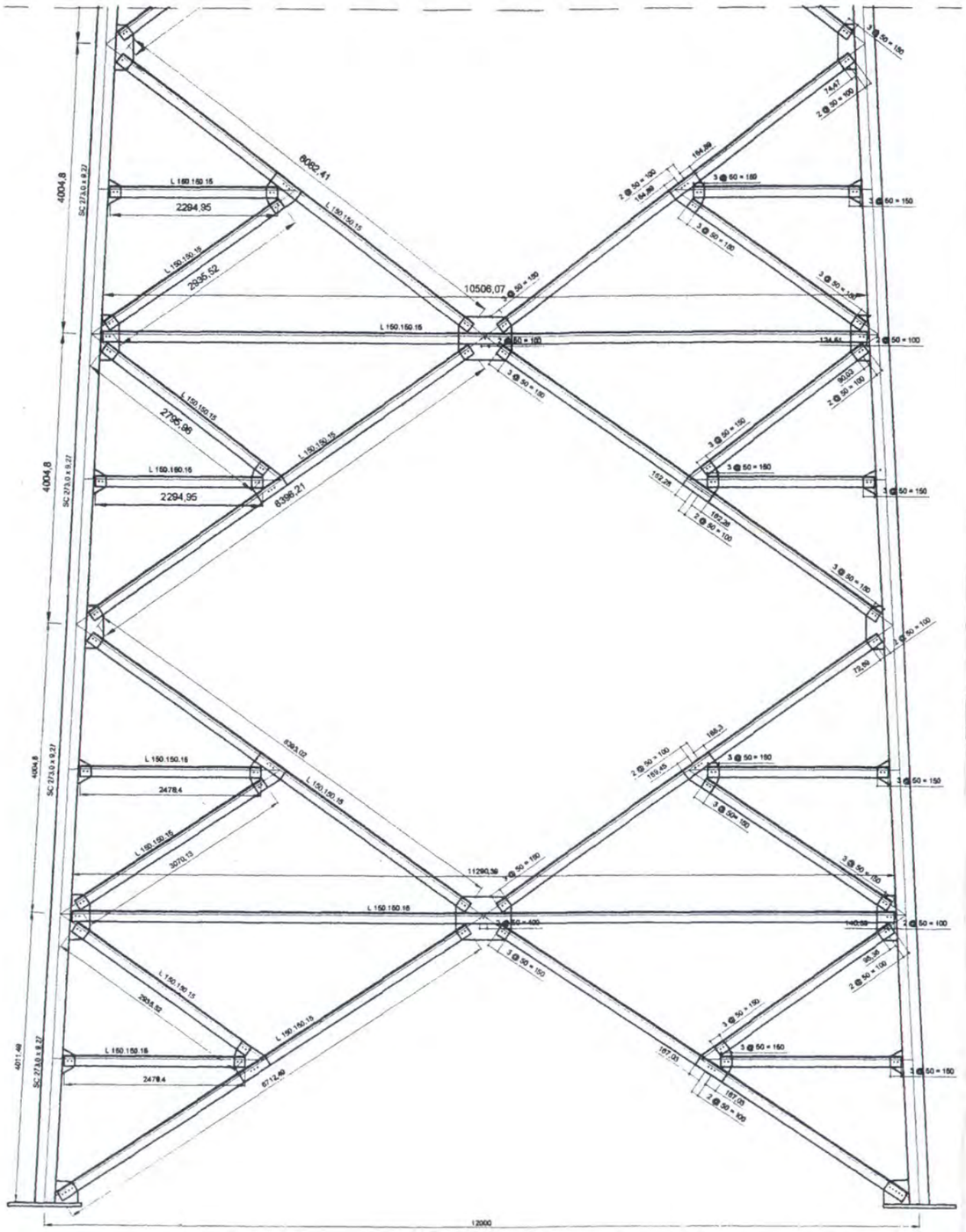


SEGMEN A-B

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN SEGMEN A-B	NTS 1:75

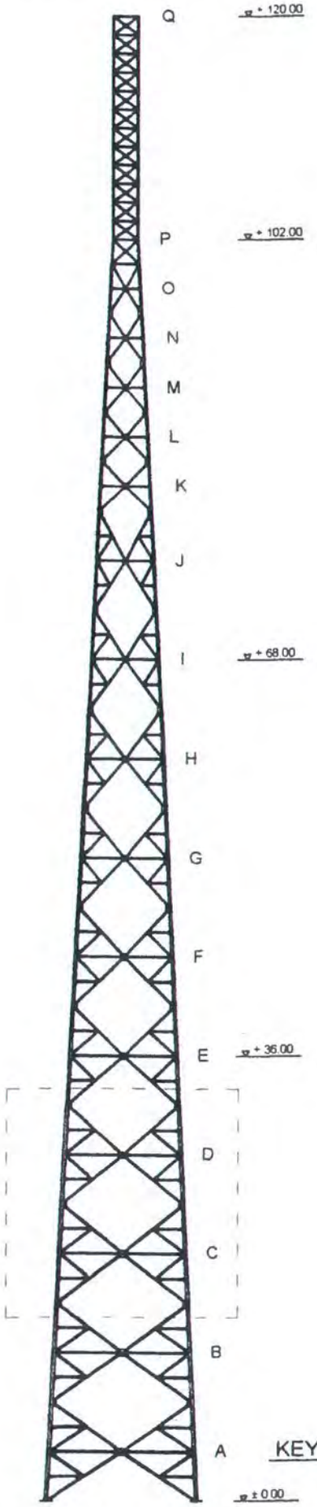
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
01	14



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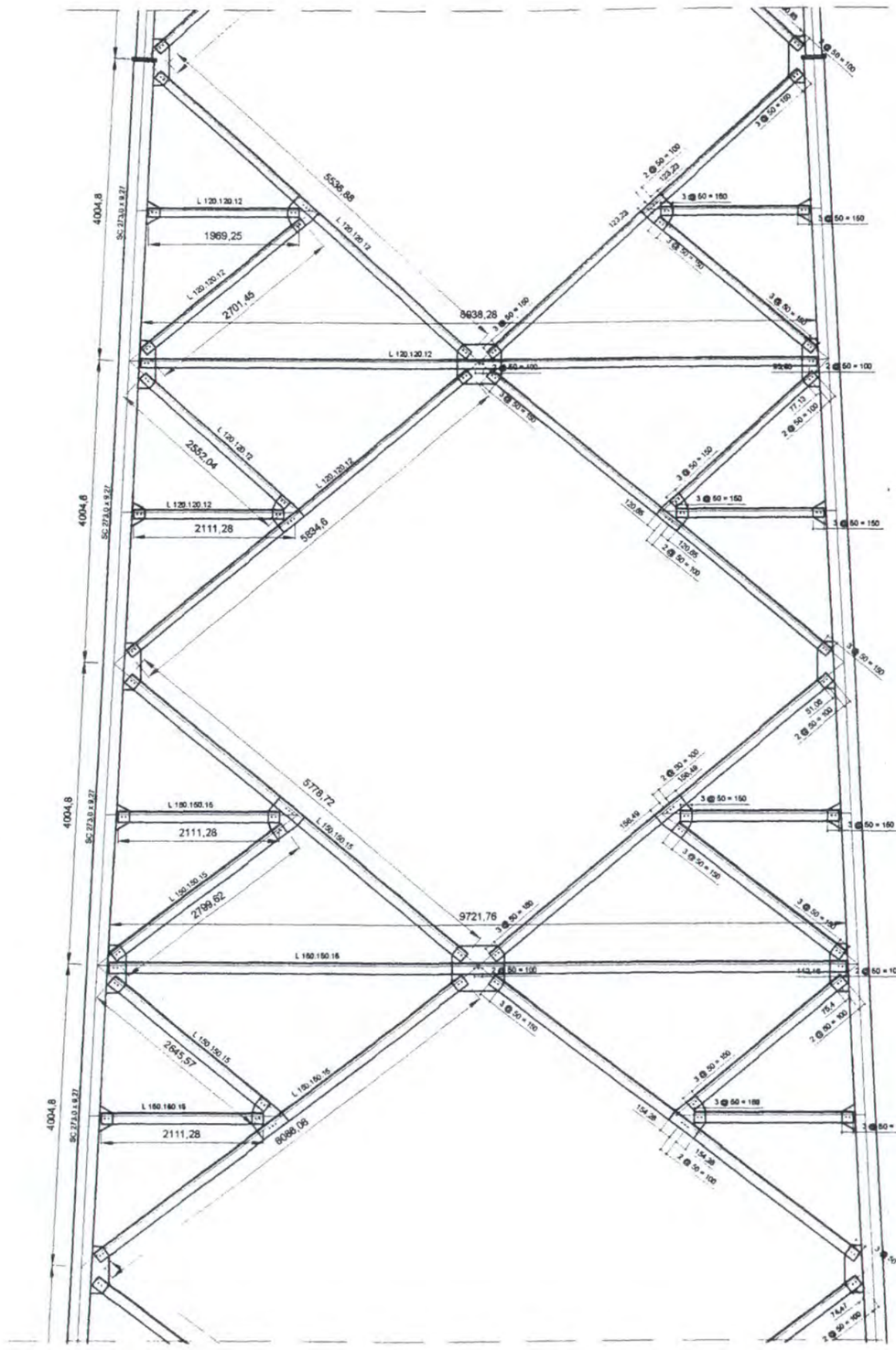


SEGMEN C-D

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN SEGMEN C-D	NTS 1:75

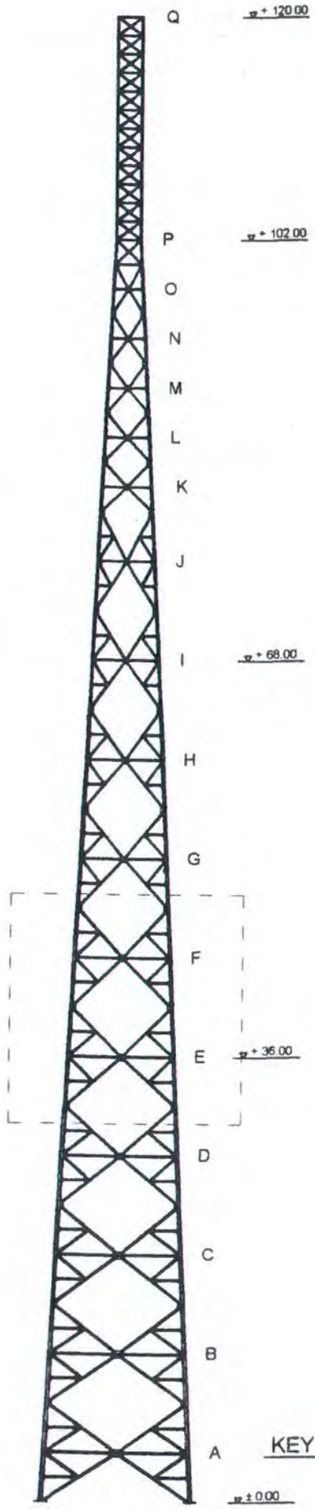
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
02	14



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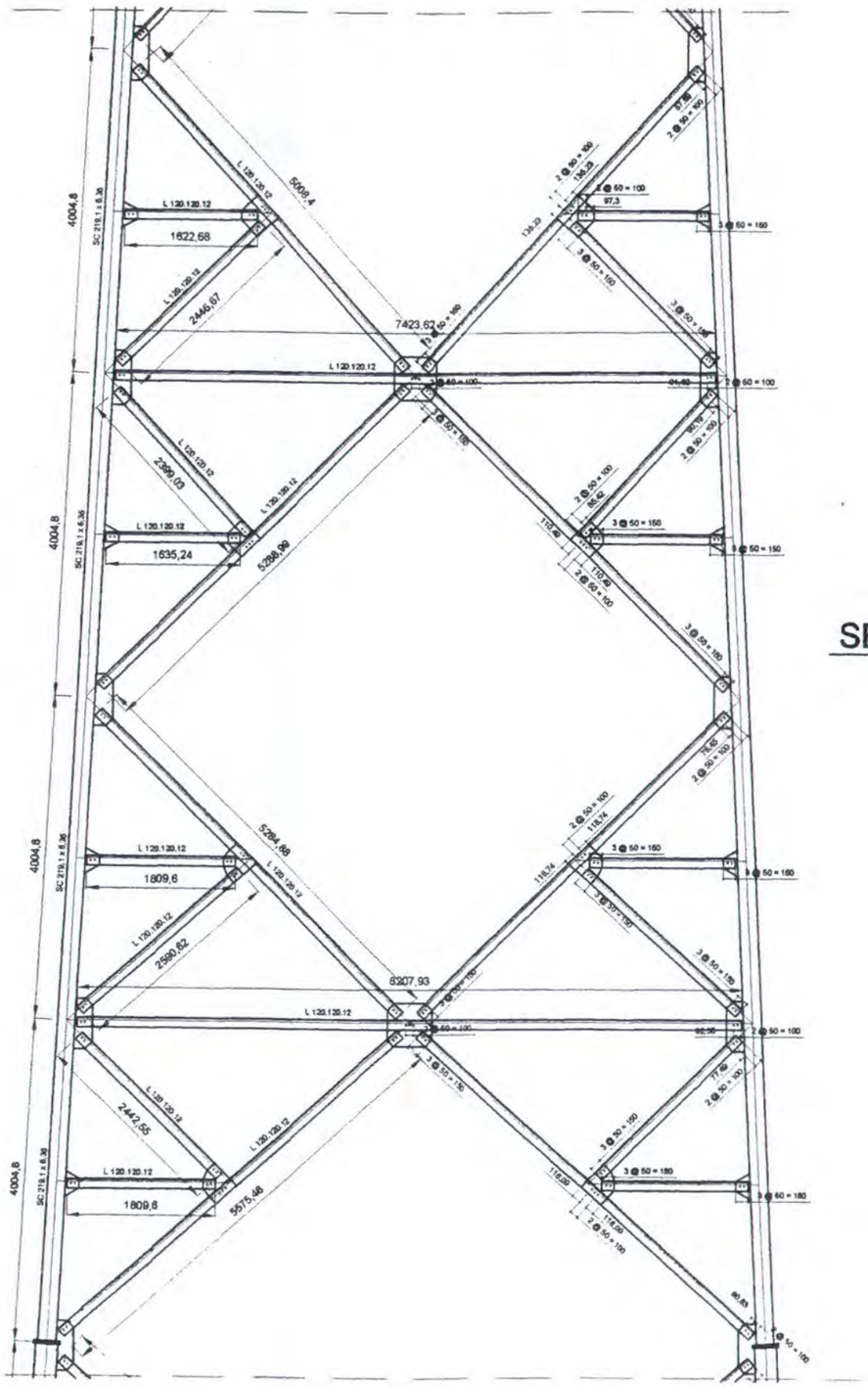


SEGMEN E-F

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN SEGMEN E-F	NTS 1:75

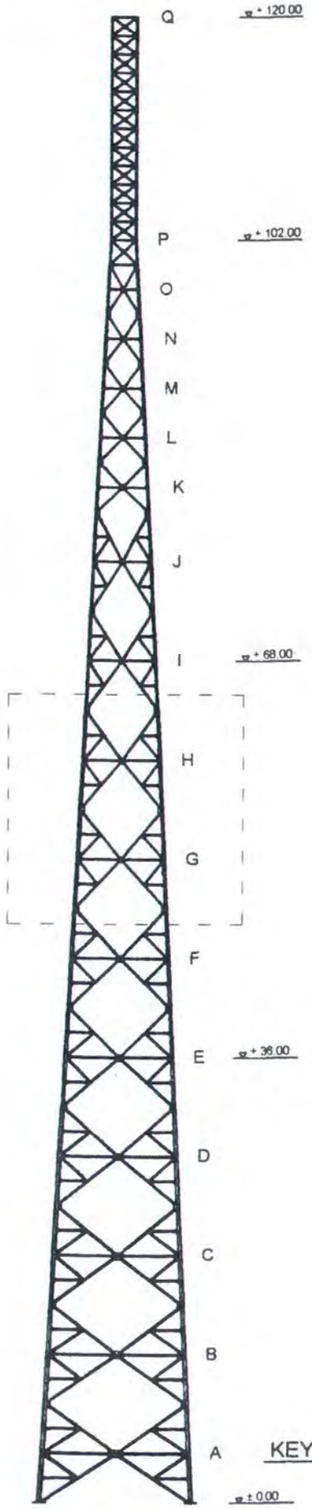
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
03	12



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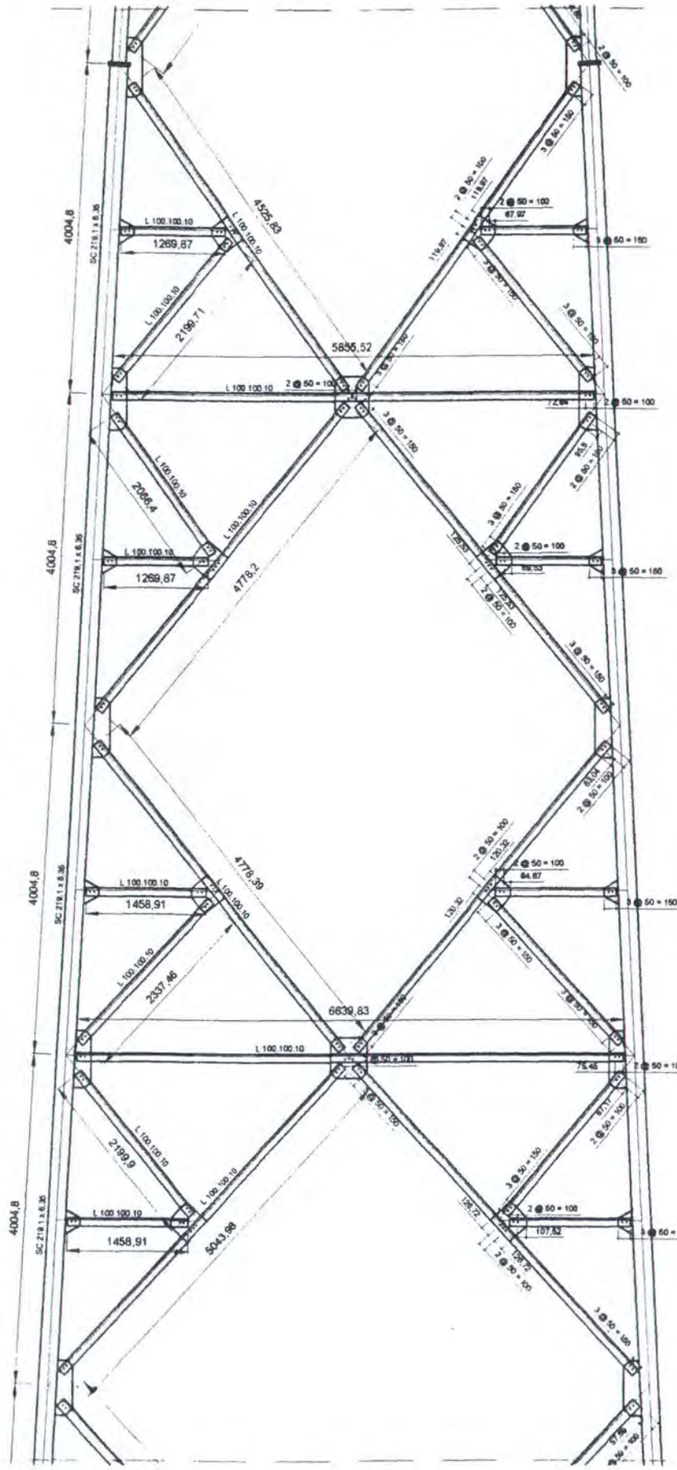


SEGMEN G-H

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN SEGMEN G-H	NTS 1:75

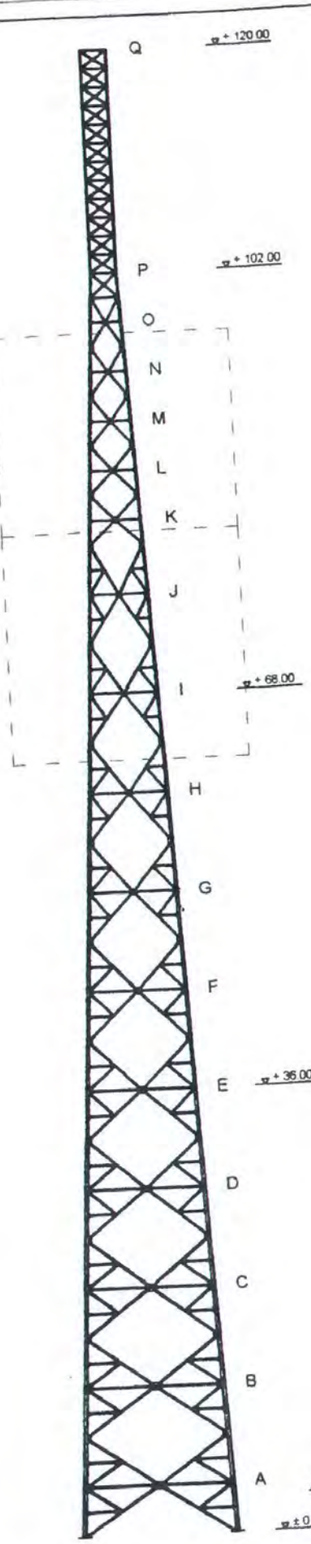
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

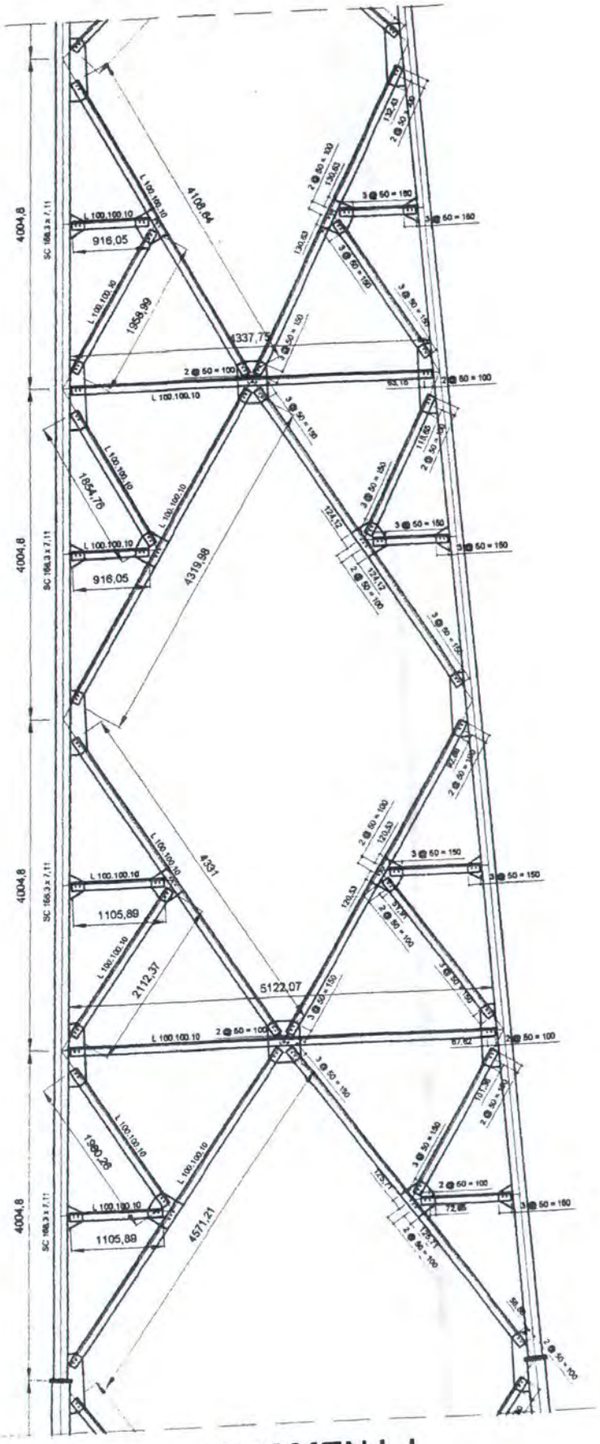
Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
04	14

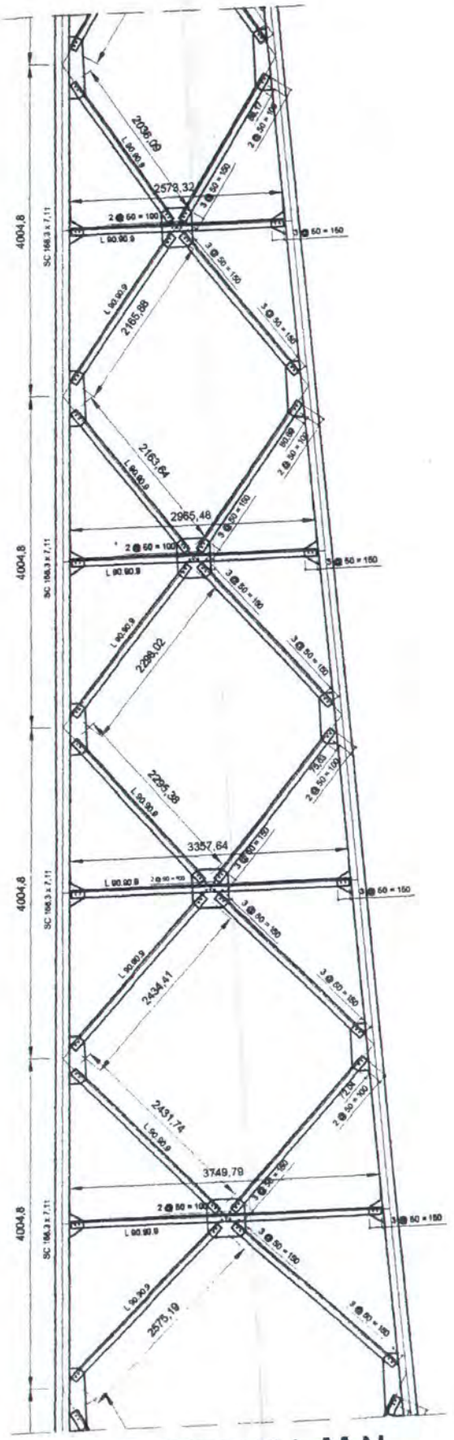


KEY PLAN



SEGMEN I-J

SKALA 1:75



SEGMEN K-L-M-N

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN SEGMEN I-J SEGMEN K-L-M-N	NTS 1:75 1:75

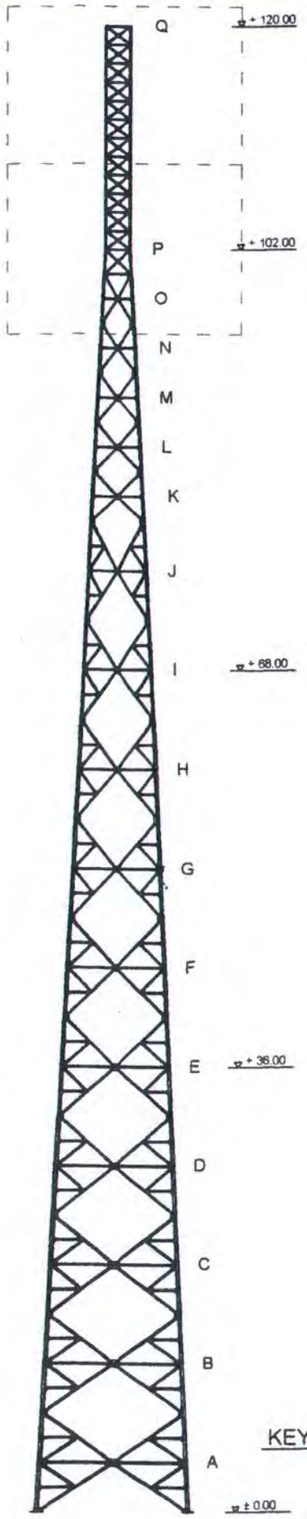
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

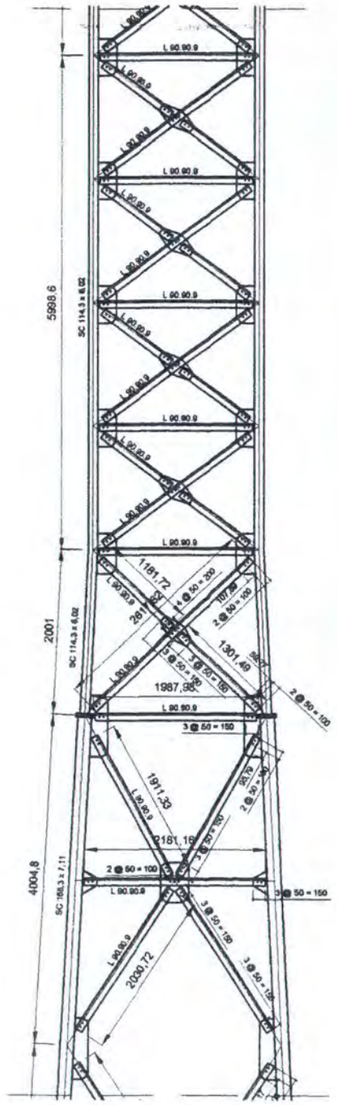
Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
05	14

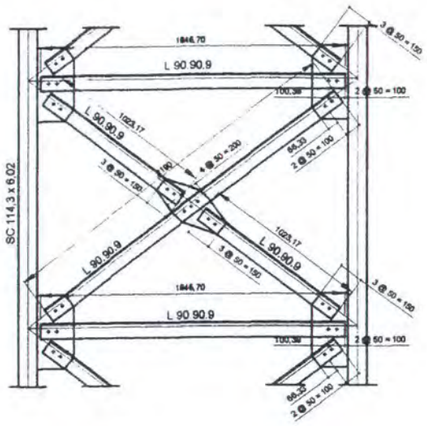


KEY PLAN



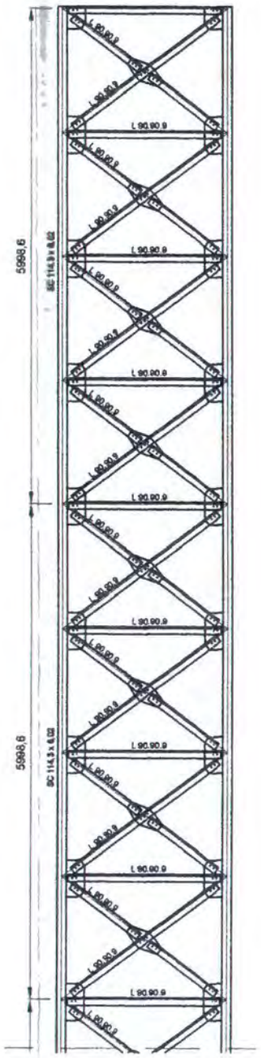
SEGMEN O-P

SKALA 1:75



DETAIL SEGMEN Q

SKALA 1:37.5



SEGMEN Q

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN	NTS
SEGMEN O-P	1:75
SEGMEN Q	1:75
DETAIL SEGMEN Q	1:37.5

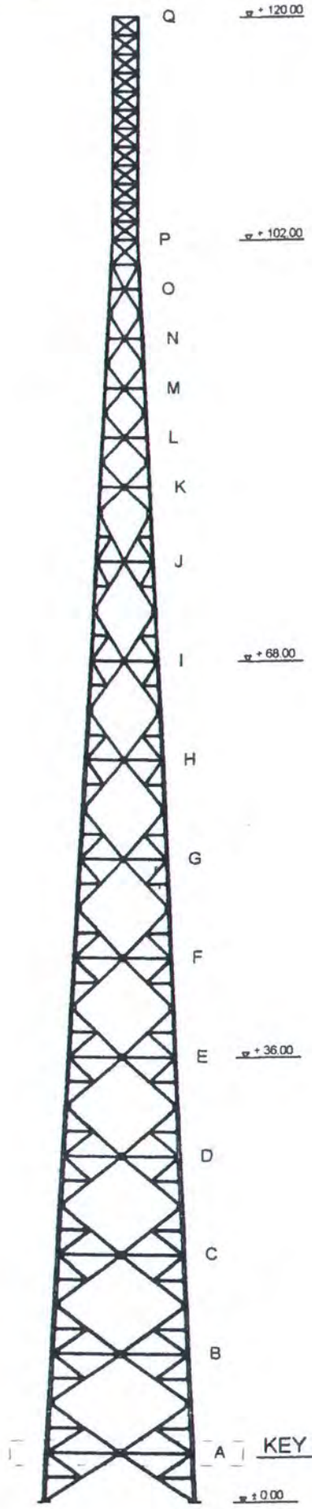
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
06	14



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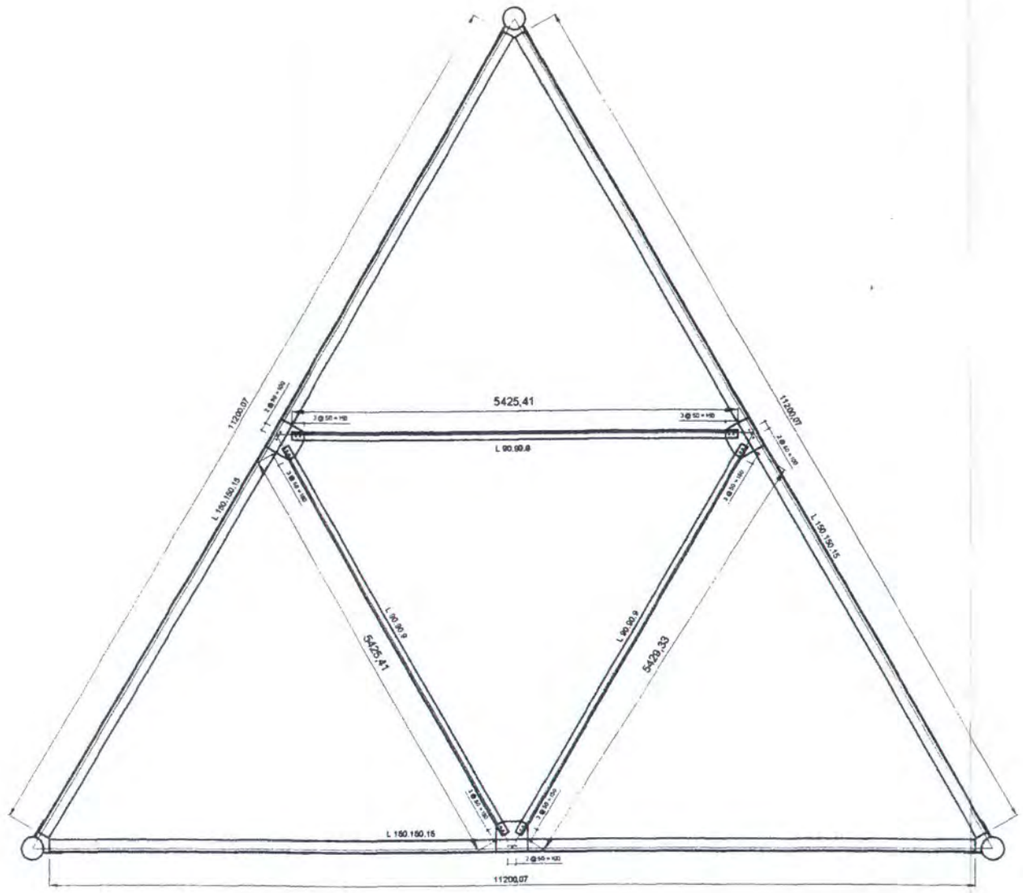


SECTION A

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN SECTION A	NTS 1:75

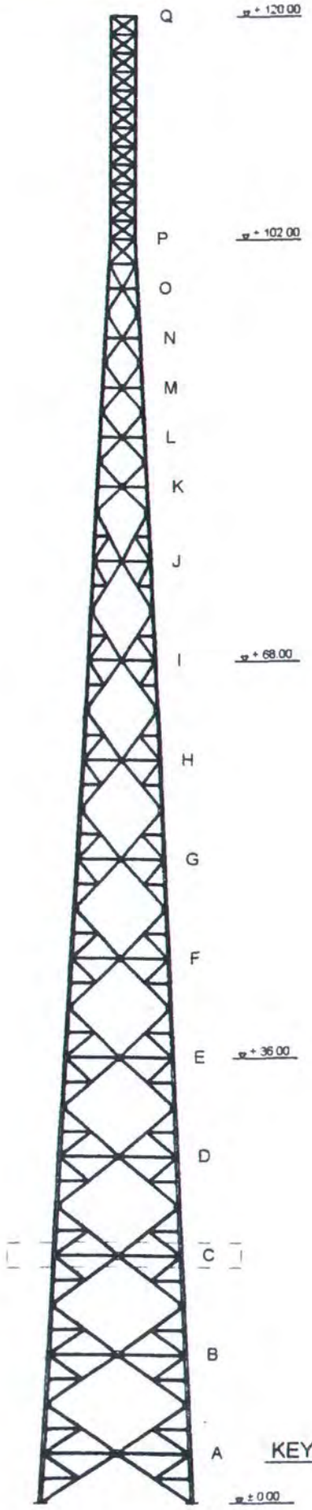
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
07	14



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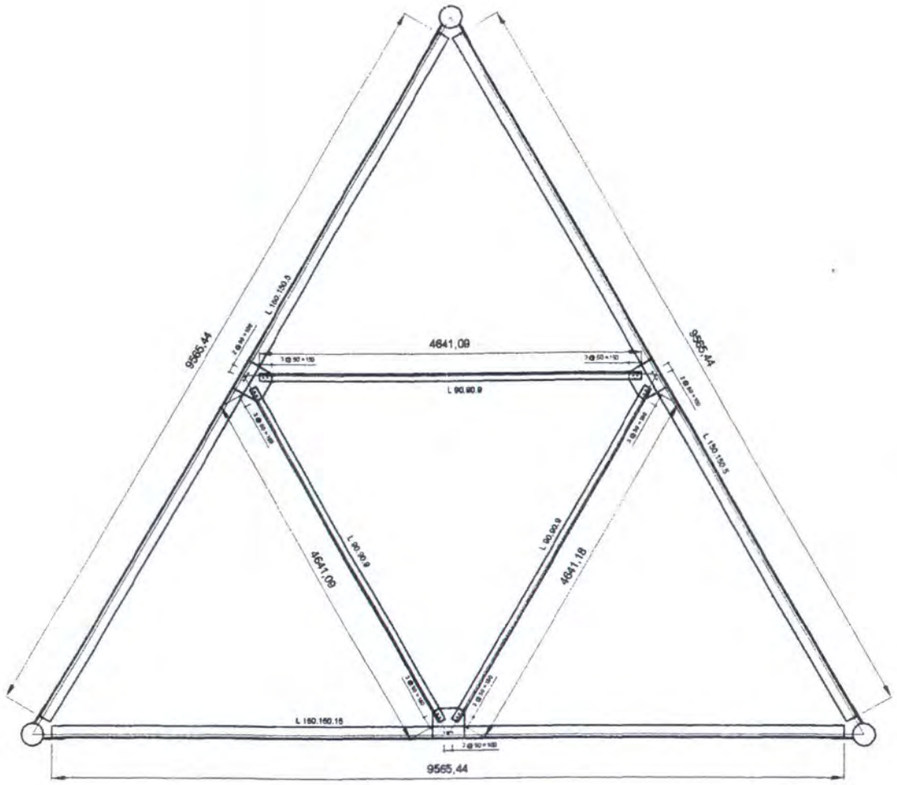


SECTION C

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN DETAIL C	NTS 1:75

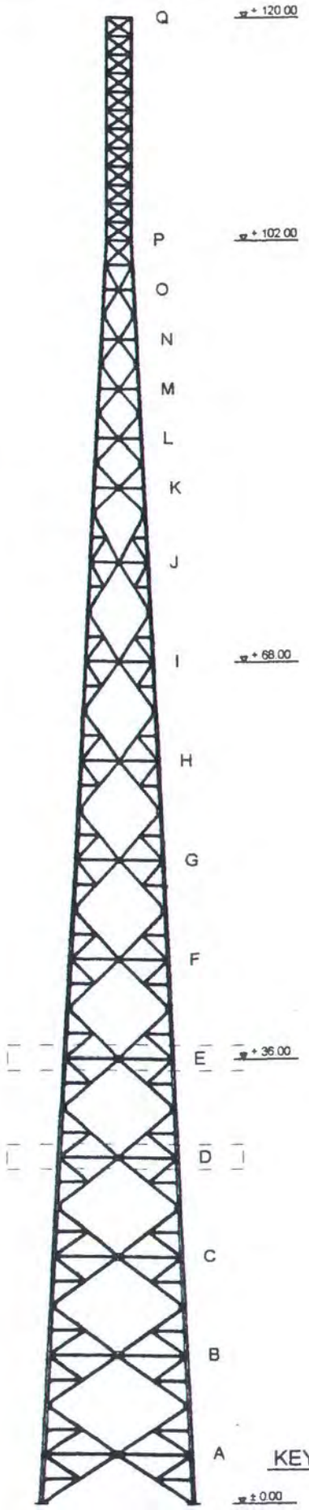
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
09	14



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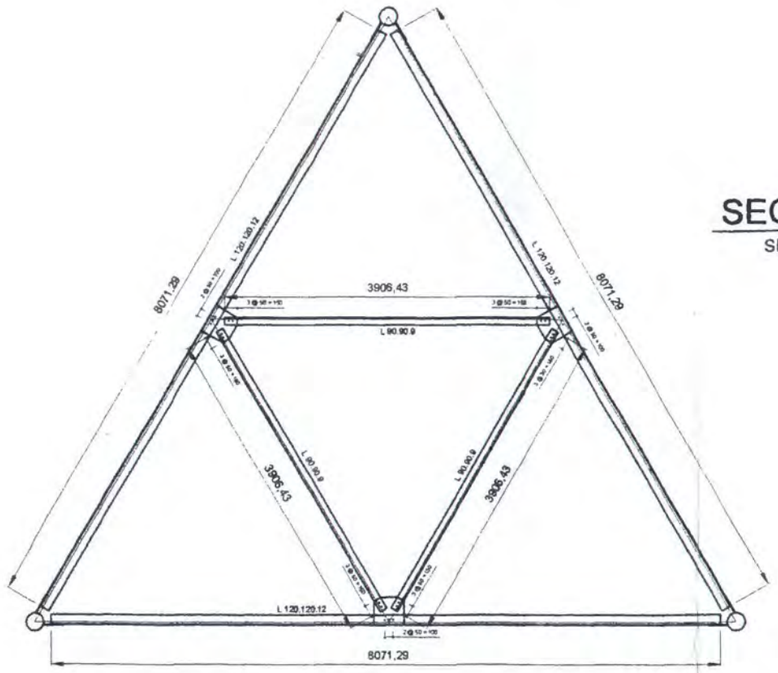
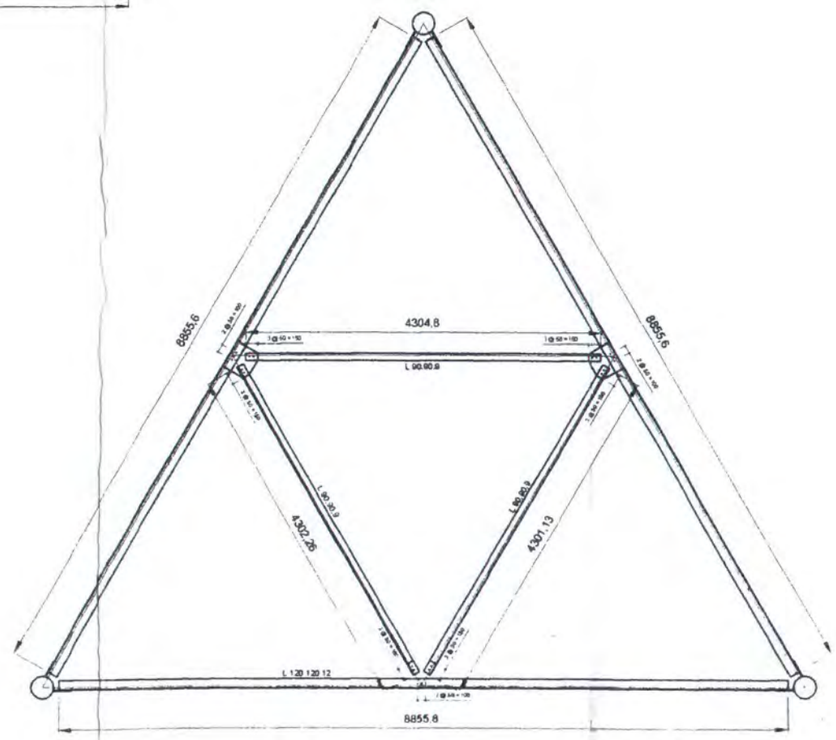


SECTION E

SKALA 1:75



SECTION D

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN	NTS
SECTION D	1:75
SECTION E	1:75

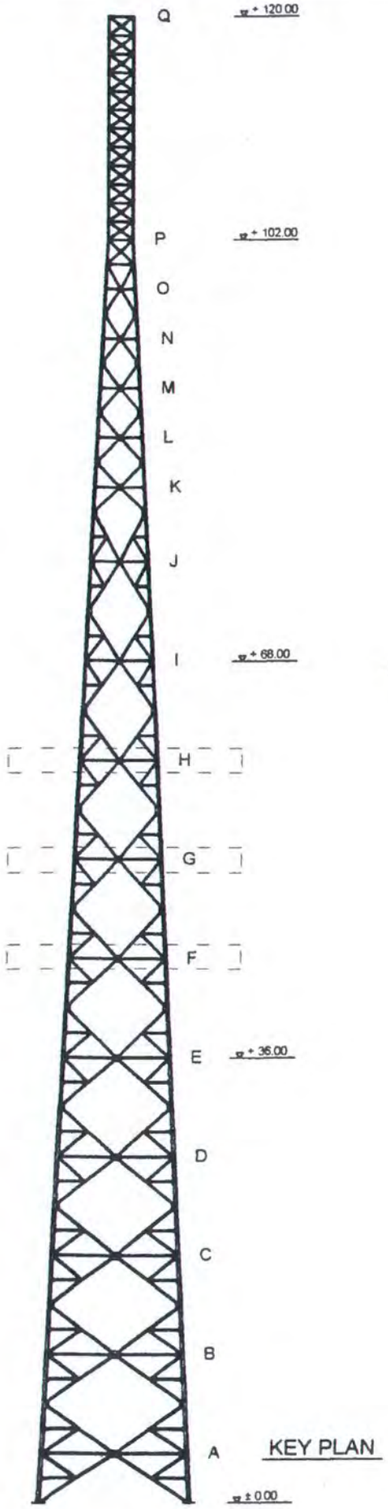
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
10	14



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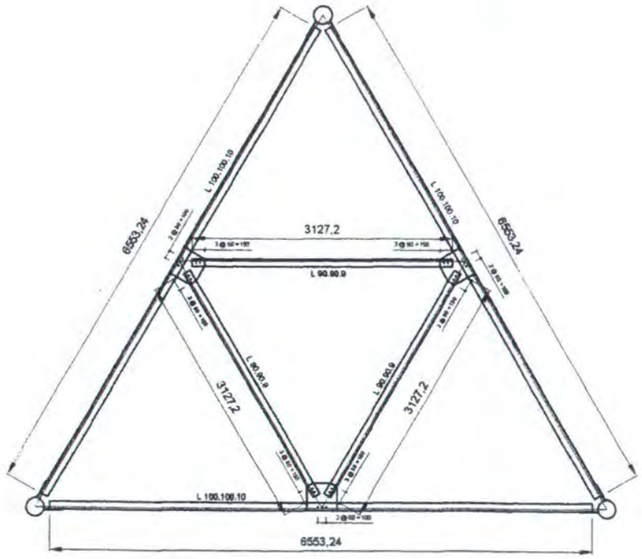
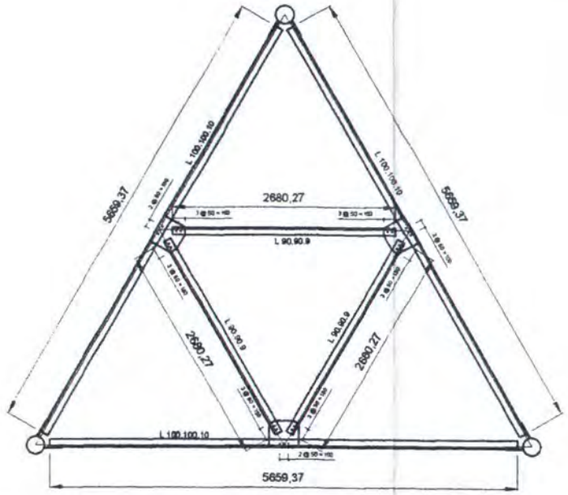


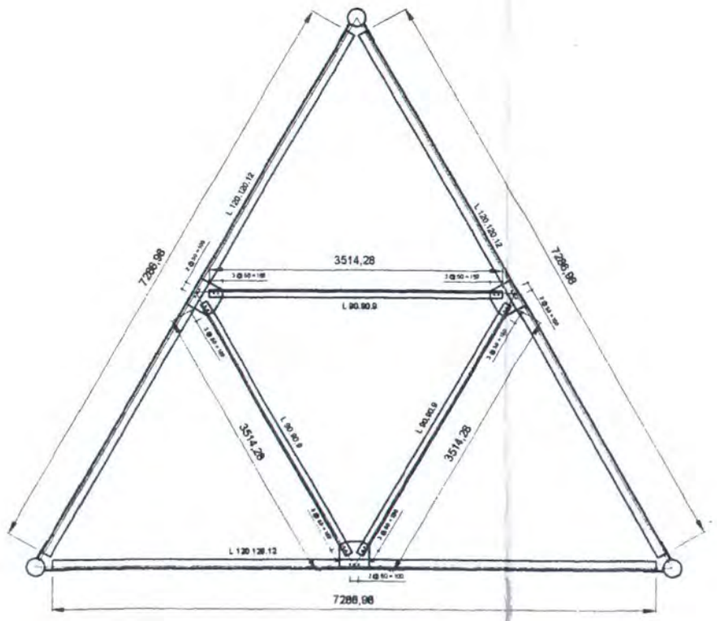
SECTION G

SKALA 1:75



SECTION H

SKALA 1:75



SECTION F

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN	NTS
SECTION F	1:75
SECTION G	1:75
SECTION H	1:75

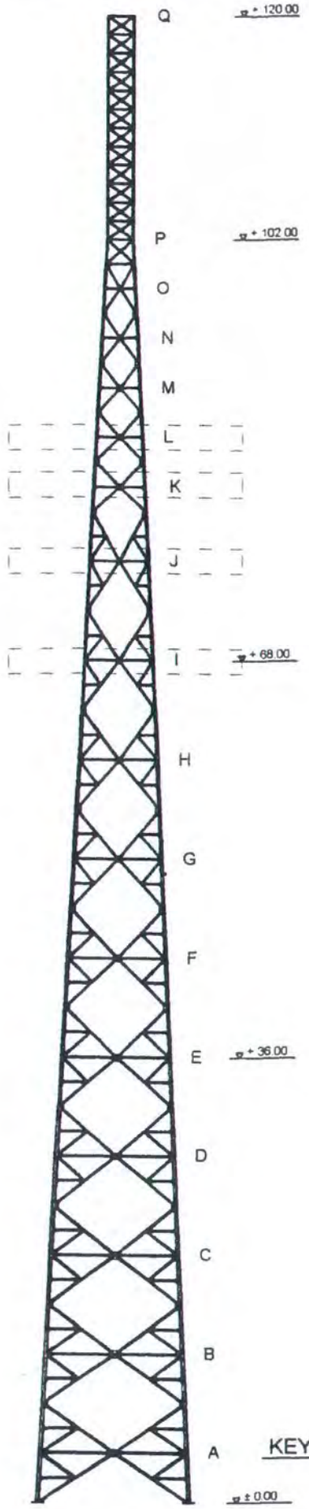
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

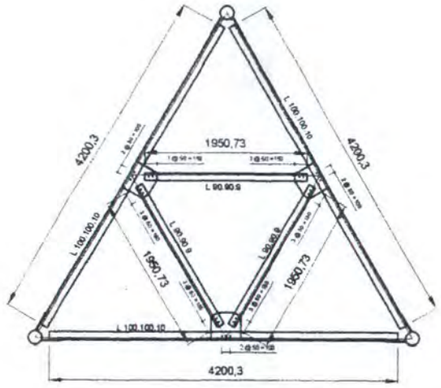
Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
11	14

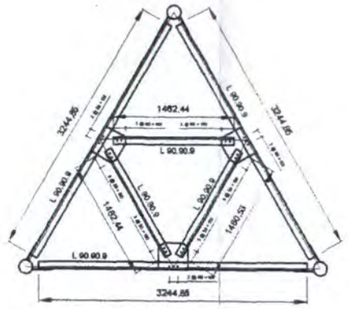


KEY PLAN



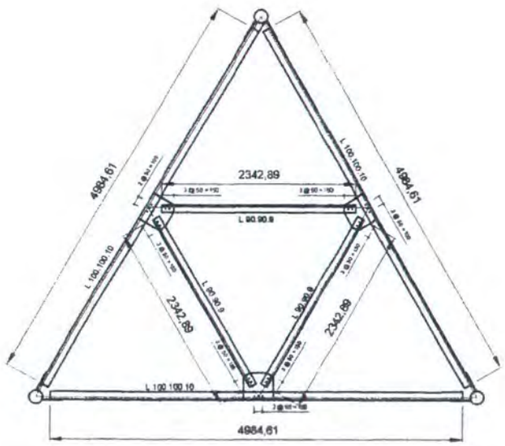
SECTION J

SKALA 1:75



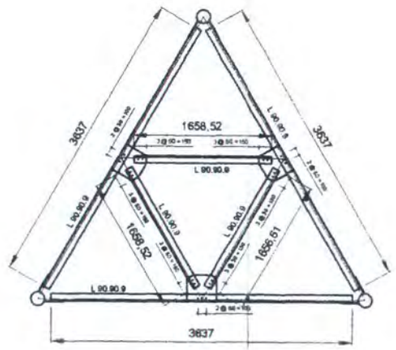
SECTION L

SKALA 1:75



SECTION I

SKALA 1:75



SECTION K

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN	NTS
SECTION I	1:75
SECTION J	1:75
SECTION K	1:75
SECTION L	1:75

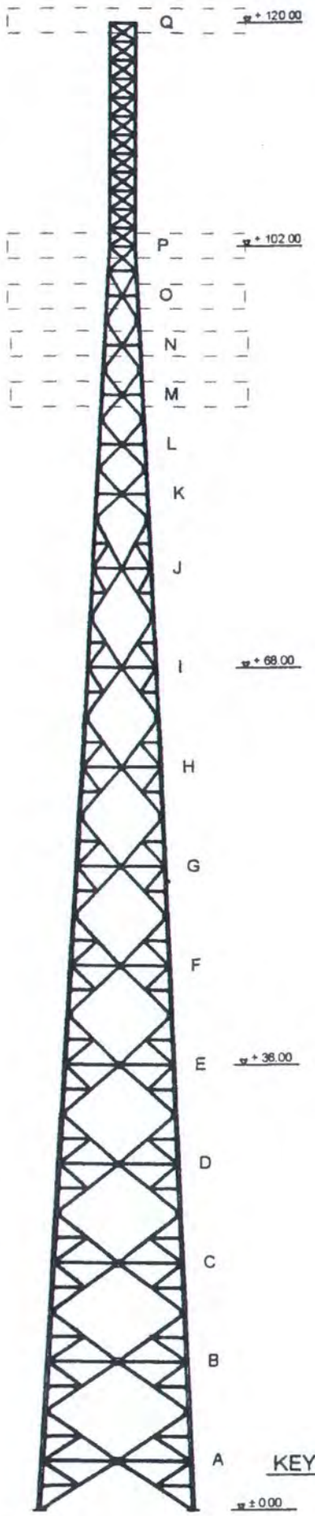
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

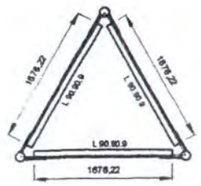
Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
12	14

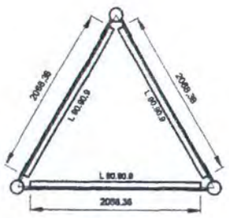


KEY PLAN



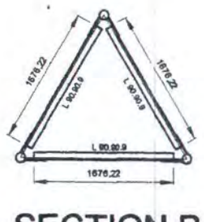
SECTION Q

SKALA 1:75



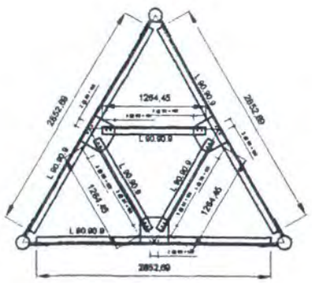
SECTION O

SKALA 1:75



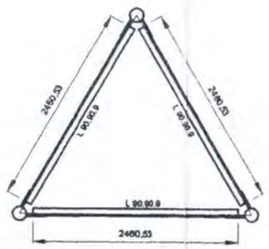
SECTION P

SKALA 1:75



SECTION M

SKALA 1:75



SECTION N

SKALA 1:75

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
KEY PLAN	NTS
SECTION M	1:75
SECTION N	1:75
SECTION O	1:75
SECTION P	1:75
SECTION Q	1:75

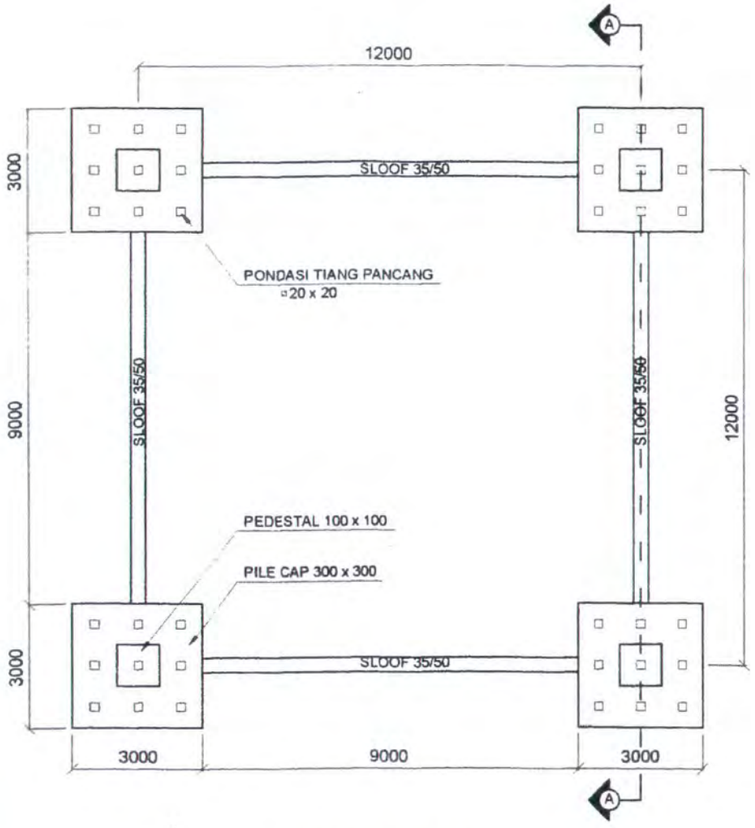
Keterangan

Semua ukuran dalam mm
Baut menggunakan Ø 16 mm
Pelat menggunakan t = 10 mm

Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

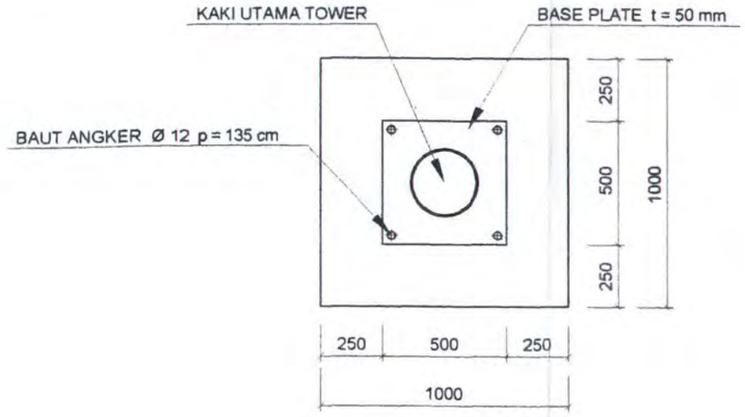
Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
13	14



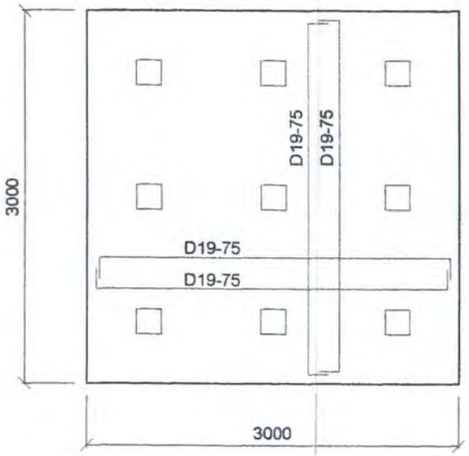
DENAH PONDASI

Skala 1:150



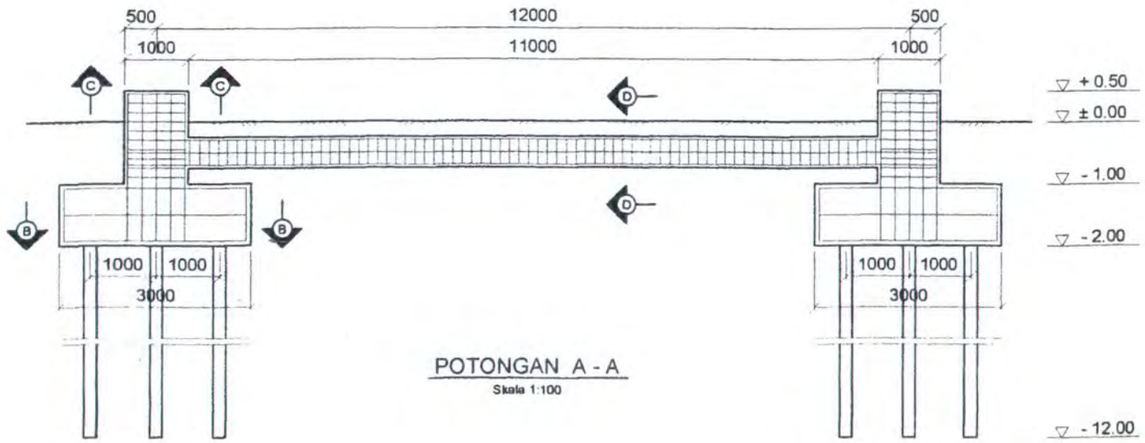
DETAIL BASE PLATE

Skala 1:25



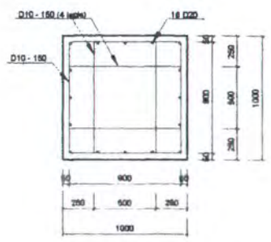
POTONGAN B - B

Skala 1:50



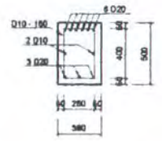
POTONGAN A - A

Skala 1:100



POTONGAN C - C

Skala 1:50



POTONGAN D - D

Skala 1:50

JURUSAN TEKNIK SIPIL
S1 - EKSTENSI
FTSP ITS - SURABAYA

JUDUL TUGAS AKHIR

STUDI 3 ALTERNATIF STRUKTUR
TOWER BAJA 3 KAKI SETINGGI 120 METER
UNTUK ANTENA RCTI
DI SUKOHARJO - JAWA TENGAH

Judul Gambar	Skala
Detail Pondasi	1 : 150
Detail Base Plate	1 : 25
Potongan A - A	1 : 100
Potongan B - B	1 : 50
Potongan C - C	1 : 50
Potongan D - D	1 : 50

Keterangan

Semua ukuran dalam mm

Dosen Pembimbing	Paraf
Ir. R. SOEWARDOJO, MSc. NIP : 130.520.307	

Digambar Oleh	Paraf
WURYANDITYA DWI ANANDA NRP : 3102.109.524	

No. Lembar	Jumlah Lembar
14	14